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In 1967, seven demonstration kindergarten classes were set up in order to observe children's characteristics; to determine activities, individualized instruction, and teacher aide functions and training; to develop curriculum and plans for evaluation and management routines; to examine instructional materials and class size; and to help parents understand the functions of kindergarten. The population included 320 children, seven teachers, seven teacher aides, and seven principals. Record data were collected, and instruments which could be cross-checked were used. Reliability was achieved by pretesting and posttesting with standardized tests. Teachers and aides were oriented toprocedures before evaluation, and highly competent personnel were employed. Conclusions reached were as follows: (1) kindergarten programs should be flexible to meet varying cognitive, social, emotional, and physical needs of the children; (2) evaluative instrument" should be developed and giv"n priority to assess programs; (3) demonstration centers should be organized and inservice training should be established for prospective teachers; (4) teaching strategies and curriculum should be studied in depth; and (5) home-school relations and role of all personnel should be delineated. Followup studies on all phases of the program were recommended. (DO)

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KINDERGARTEN, 1967-68

An Evaluation Report

ED025315

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PREFACE

The Center for Effecting Educational Change (CEEC) is a part of the Fairfax County Public Schools. It was initiated in July, 1967, as a project under Title III of the Elementary and Secondary Education Act of 1965. Its functions are to:

- study and research the change process in education, with particular applicability to Fairfax County;
- develop and initiate a systematic change procedure for effecting and evaluating educational change in the county;
- evaluate the implementation of new and/or revised programs in various areas through an educational team approach;
- provide special services related to educational innovation and evaluation to teachers and other professional staff members of public and non-public schools;
- serve as an exemplary center for visitation, observation, and study by educators and other interested individuals.

CEEC's activities have developed from a basic survey, conducted in the spring of 1967, of the needs and interests of Fairfax County schools and its pupils. This survey spotlighted kindergarten, child study, fine and performing arts, and educational technology as areas of primary concern.

In connection with the first, a pilot kindergarten program was launched in the fall of 1967. This is a preliminary report of that project. In connection with the next two--child study and fine and performing arts--need and feasibility studies were undertaken in 1967 and pilot programs will begin with the fall, 1968, school semester. The fourth area, educational technology, will be launched as a need and feasibility study also in the fall, 1968.

This preliminary report has been prepared to offer guidelines for the implementation of the county-wide kindergarten program in Fairfax schools and of other programs elsewhere. In addition, it has been prepared as an aid to those who are already involved in kindergarten but who may be seeking new directions.

A complete report, with full statistical data, will be ready for distribution in the near future.

Dorsey Baynham, Editor

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ACKNOWLEDGMENTS

The kindergarten evaluation report is a tribute to the seven kindergarten teachers, aides, and administrators at Centreville, Edsall Park, Hollin Meadows, Lewinsville, Springfield Estates, Walnut Hill, and Westmore elementary schools in Fairfax County, Virginia who have given generously of their time and effort in the development of the demonstration kindergarten classes.

We are indebted to Mrs. Marjorie Ginsberg and Mrs. Elizabeth Schaler, two research assistants, for their help with the evaluation report. The preparation of the manuscript and tables was a task that exhausted a number of secretaries. We are especially grateful to Mrs. Wanda Colton and Mrs. Nancy Browne who took responsibility for the preparation of the final manuscript.

Finally, we wish to express our appreciation for the encouragement and support for the evaluation report given to us by Dr. George G. Tankard, Jr., Assistant Superintendent for Research and Program Development, and Dr. Robert F. Kelly, former Associate Director of the Center For Effecting Educational Change.

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SECTION I - NARRATIVE

BACKGROUND

Planning for Fairfax County's kindergarten program, which was to be initiated in September, 1968, began in April, 1966. At that time Mr. Earl C. Funderburk, Division Superintendent, appointed a committee to study all aspects of kindergarten education and to develop a plan of action for starting a kindergarten program for the county's estimated 7,000 five-year-olds. At the same time a member of the supervisory staff, Mrs. Evelyn Valotto, was given leave for one year to study early childhood education at Teachers College, Columbia University.

The steering committee appointed by Mr. Funderburk subdivided into the following groups: facilities, organization, personnel, curriculum, research, outside consultants, and finance.

A budget adopted by the Fairfax County School Board in the spring of 1967 pegged the pilot kindergarten program at slightly more than $112,000, approximately $66,000 of the amount to be provided by Title III funds and approximately $45,000 by Fairfax County. The money was to go toward demonstration classes, materials and equipment, and inservice training, including consultants for teachers and administrators.

In selecting consultants, an attempt was made to choose educators who are nationally known in childhood education and who represent a variety of academic disciplines. Among consultants selected were:

Dr. Helen Robison	- Teachers College, Columbia University	- Social Studies
Dr. Ethel Thompson	- NEA	- Child Growth and Dev.
Dr. Jean Grambs	- University of Md.	- Culturally Deprived
Dr. Kenneth Wann	- Teachers College, Columbia University	- General Early Childhood Curriculum
Dr. Rose Mukerji	- Brooklyn College	- Language Arts

Dr. Herbert Sprigle	- Learning to Learn Laboratory	- Math and Language
Dr. Lucille Perryman	- Queens College	- Music, Science, and Play
Dr. David Wicken	- Peabody College	- Math
Dr. Bernice Blount	- Mills College	- Language Arts - Linguistic Approach
Mrs. Adeline McCall	- Chapel Hill, North Carolina	- Music
Dr. Roach Van Allen	- University of Ariz.	- Language Experience Approach

Staff development, which also began in 1966, involved teachers, principals, and supervisors in:

- conferences and workshops
- orientation and planning meetings
- teacher training in college courses
- visits to other school systems
- observation in the demonstration classrooms

A curriculum workshop for approximately 25 teachers, principals, and supervisors was held in the summer of 1967; orientation and planning meetings for principals and supervisors were held periodically beginning in June, 1967; and state and locally-funded college courses were offered through the Northern Virginia Center of the University of Virginia to teachers who wished to certify for teaching in the kindergarten. Finally, visits were made by principals and supervisors to observe exemplary programs in private schools in the county, in neighboring systems in Virginia, and in systems in California, New York, and Florida.

In August, 1967, the Fairfax County School Board adopted a staff recommendation for the establishment of seven kindergarten classrooms to serve as demonstration centers for prospective teachers and aides as well as for elementary principals, private school personnel, and other interested people. The demonstration classes were a part of the total kindergarten planning project and were partially funded, as already stated, through a Title III grant to Fairfax County. The grant established the Center for Effecting Educational Change (CEEC); the demonstration classes constituted one of three major programs to be coordinated by CEEC.

One demonstration classroom was set up in each of the then existing seven magisterial districts. Guidelines used in selecting the seven schools called for one school per magisterial district, appropriate available space, a predominantly walking school-population, and varying socio-economic backgrounds. The schools selected were: Centreville, Edsall Park, Hollin Meadows, Lewinsville, Springfield Estates, Walnut Hill, and Westmore.

Organization of each classroom provided for one teacher and one aide for two groups per day, each group to include 20 to 25 children for a 2½- to 3-hour kindergarten session.

Since only 40-50 children within a school neighborhood, as a maximum, could be accommodated by the two sessions, some means of selection was necessary. It was decided that all five-year-old children within a school's boundary would be eligible to register and that final selection would be made on a random basis. The schools were then listed alphabetically and given an arbitrary enrollment figure of 40 or 50 children, four schools having 40 and three, 50.

The maximum registration figure, 50, was held firm. In those schools where more than 40 but less than 50 sought to enroll, however, it was decided to accept all these registrations. Thus, any possibility of studying alternate patterns of class size had to be abandoned.

RATIONALE

Today's interest in the education of young children is visible in all sectors of society; research in child growth and development, and particularly in educational programs for early childhood, has experienced tremendous impetus.

Recent research has advanced the premise that the early years, particularly those before six, are the most crucial of all for both intellectual and social development. These are the years when the child's capacity for learning--the capacity which may determine future achievement--is developed. Benjamin S. Bloom, of the University of Chicago, noted authority in the psychology of learning, reports that at age five an individual has reached 50 per cent of his learning potential. And Moshe Smilansky, Director of the Szold Institute, states that "The child's perceptions, sense of security, pattern of individual development, basic elements of abstract thinking, and his style of intellectual performance will all depend to a great extent on what he learns and the attitudes he acquires during this early state."

If it is true that the very early years are indeed the most crucial, then early educational experiences should be comprehensive. The question of whether kindergarten should be a part of the public school gives way to "what constitutes a quality program for five-year-olds?" The kindergarten program of the past, which emphasized emotional and social development, should be reshaped to meet society's needs. Curriculum content should incorporate the findings of recent research and the role of the kindergarten teacher in relation to the learning process should be examined.

A supporting rationale for kindergarten must first dispose of a common skepticism relating to the nature of the program. Many individuals find it difficult to accept the idea that five-year-olds learn and must be taught in settings and ways different from those of the primary grades.

The young child responds constructively to a school setting which offers sensory and manipulatory experiences, opportunities for free verbal and physical expression, and freedom to explore and to respond to his environment. The kindergartener requires the guidance of a well-trained teacher who knows when and how to intervene in the learning process. The child's levels of maturity--emotional, physical, social, and cognitive--make inappropriate a program which involves extended periods of sitting and the use of the secondary skills related to reading and writing. Rather than depending primarily upon books in teaching skills and subject matter concepts, the teacher plans activities involving first-hand learnings and actual participation by the child. In the past, the value of verbal learning has been overly emphasized. Much of the same material could be learned more readily, easily, and with greater permanency were the child allowed to participate, with concrete materials, in solving problems requiring the same skills.

With the foregoing rationale serving as a basis, in August, 1967, the following purposes for the seven demonstration kindergarten classes were drawn up:

- to observe the social, emotional, physical, and mental characteristics of Fairfax County five-year-olds

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- to determine appropriate activities for five-year-olds
- to develop a broad outline for learnings in some academic disciplines, such as language arts, math, and science
- to determine ways to individualize instruction at the kindergarten level
- to examine the effectiveness of varied instructional and diagnostic materials
- to offer opportunities for developing various plans for evaluation
- to develop management routines
    - transportation
    - scheduling within a school
    - use of resource people
- to determine the function of teacher aides and develop a system of inservice training for them
- to study alternate patterns of class size
- to help parents understand the meaning of activities that are carried on in the kindergarten, such as "play"

CURRICULUM DEVELOPMENT

Under the direction of the Department of Instruction, the curriculum sub-committee of teachers, principals, and supervisors, organized in early 1967, met frequently during the spring school session. In June, 1967, it held a two-week workshop. At that time, the committee began formulating position papers concerning the kindergarten curriculum.

In December, a plan entitled "The Curriculum Development Team Approach" was developed and followed. This plan represented the collaborative efforts of teachers, principals, supervisors, community representatives, and consultants to design the kindergarten curriculum through research, planning, evaluation, and systematic development. As plans progressed, the team was provided with data collected from the seven pilot classes. These data included information on program content supplied by the demonstration kindergarten teachers, each of whom had chosen an academic area to study in depth. The data also included curriculum outlines and described activities in the various areas.

A June, 1968, workshop, also under the leadership of the Department of Instruction, included two of the pilot teachers as consultants.

Materials sent to the curriculum development committee from the seven teachers and/or CEEC during the year included:

A. Basic assumptions and broad objectives for the pilot kindergarten program

B. A Proposal for Establishing a Systematic Process for Curriculum Development in the Kindergarten Program—a plan for developing and implementing a curriculum team approach for CEEC and the Department of Instruction

C. Forms developed for collection of kindergarten information--curriculum guides and operation and management guides

D. Kindergarten testing program--outlining standardized and non-standardized tests to be administered on pre-and-post test basis

E. Tentative kindergarten time schedule--systematic outline of steps for implementation of pilot kindergarten program

F. Status report of kindergarten program

G. Basic equipment list for a kindergarten class of 25 children

H. Notes on the kindergarten library

I. Specific curriculum information, including:

   1. Kindergarten Language Arts Portfolio

   2. Synopsis of Three Observations in the Analysis of Group Activities--Kindergarten Classes

   3. Outdoor Education--A Field Trip

   4. Field Trip--Indian Exhibit

   5. Kindergarten letter writing

   6. Kindergarten experimental checklist

   7. Kindergarten newsletters

   8. Behavioral outcomes for one kindergarten class in math, science, social science, music, art, physical development, and democratic living

   9. Classroom management and operation

   10. Parent orientation

   11. Kindergarten Children Who Are Lost

   12. Social Studies--school, safety, family, homes, fall, seeds, winter, Indians, trips, sun, pets, transportation, and other areas

   13. Music--rhythm and listening, free movement, pitch, listening, pantomine, and other areas

   14. Art

15. Play--directed play, dramatic play, objectives of play, block play

16. Nature of the child--assessing the kindergarten child

17. Storage of supplies

18. Woodworking--workbench, suggestions for woodworking center, woodworking materials

19. Language Arts--language art skills and the listening center

STAFF DEVELOPMENT

In planning to implement a new program for a school system, the most crucial area for consideration is staff development. During the program's first year, the scope of the inservice must be broad; it must ensure a depth of knowledge regarding the curriculum and develop a variety of approaches or methods. In addition, because at least a part of the teachers will be changing levels of teaching, some time must be spent upon the general characteristics of the age-level of children involved in the proposed program.

Although staff development for Fairfax supervisors and principals in kindergarten philosophy and curriculum began in early 1967, few teachers were involved in the meetings and only a proportionately few prospective kindergarten teachers were active on the curriculum development committee during 1966-68.

Teachers who have taught primary or upper grades in the county school system and who were interested in teaching kindergarten took college courses in an attempt to be certified for teaching kindergarten, but these courses will not replace--or even supplement--local inservice.

It is safe to assume that the educational experience of the county's kindergarten teachers will range from no teaching experience to teaching experience in other grades but not in kindergarten, and on to many years of kindergarten experience in other public schools or in private schools. The varied backgrounds of the teaching personnel, the facts that there will be elementary principals new to kindergarten, there will be a new curriculum, and a totally new approach to teaching--all are facets of beginning the program which require careful planning if the kindergarten is to be merged into the system as a unified whole.

Thus, the inservice or staff development during the first year of operation is of primary importance. Kindergarten teachers and/or aides must be freed from classroom duties for inservice. Meetings held after the school day are not long enough--nor can the average kindergarten teacher take full advantage of discussions and workshops after the physcal and mental demands of working with from 40-50 five-year-olds.

The very fact of the large number of teachers and aides involved in the kindergarten program presents a scheduling problem difficult to administer and no attempt will be made in this paper to offer a solution. Instead, a pattern of meetings which have related content is offered with no attempt to restrict the pattern to a specific number of such meetings. The pattern reflects the needs of inservice as experienced by teachers of the demonstration classrooms and the CEEC Planning Supervisor. The inservice is viewed from a central level and considered as an entity in itself, not as related to a total faculty group. Whether the meetings should be held on a central, area, or school level has not been considered.

Pre-school Orientation

Teachers	Aides	Combined
General background of program	Philosophy of program	Classroom teaching team, how it functions
	Professional ethics	
Philosophy of program	Developmental tasks for five-year-olds (several sessions)	Developmental levels in art

Teachers	Aides	Combined
Use of curriculum guide	Discussion of role of aide	Art materials, how to organize for art activities
Instructional aide—responsibility of teacher	General outline of the program	Rhythmic activities—approaches to teaching
The five-year-old - developmental tasks - levels of manipulation of materials - social development	Instruction in audio-visual equipment	Singing in the kindergarten
Teaching strategies - role of play - direct instruction - large group activities - small group activities		Learning centers--purposes, materials, organization
Overview of instructional equipment and materials - learning centers - storage and sequence of use		
The first day of school - specific planning		
Parent orientation		

Inservice during the year should be scheduled on a regular basis and should focus on specific learning centers, on items of equipment, or on certain curriculum areas, as follows:

Organizing the classroom—changes during the year

The kindergarten week

AAAS science program (math)

Block building (math, language, social learning)

Language development

The workbench

Manipulative materials--purposes and uses (math, social learnings, visual discrimination, hand-eye coordination)

Social studies (concepts and related activities)

Creative arts

THE INSTRUCTIONAL AIDE

The instructional aide represents a new position in staffing elementary schools in Fairfax County. As the position is conceptualized, the services of the aide allow the teacher to function on a more professional level and to focus her efforts upon the role for which she is professionally prepared, that of instructing children. The teacher and the aide compose a teaching team.

Working cooperatively, the seven teaching teams of the demonstration classrooms and the CEEC Supervisor attempted during the year to develop a clear idea of the aide's functions and of a possible inservice pattern for aides. It was assumed that her duties would change during the year and would differ, to some extent, in each classroom.

(School assignment of the aides was the responsibility of the Personnel Department. Teachers were not a part of the selection process and in most cases teachers and aides were not acquainted prior to the opening of school.)

It was agreed that the intent of the aide position was to serve as part of a classroom team rather than to be restricted to a general clerical or housekeeping nature. The aide was not to be an instigator of learning but was to provide the instructional support deemed helpful by the classroom teacher. It was assumed that teachers would vary in the types of instructional support they desired, as well as in kind and quantity of support in other areas--clerical, housekeeping, and monitorial.

It was assumed that the traditional pattern of the self-sufficient teacher operating in a self-contained classroom would affect the ways in which a teacher would define the role of the instructional aide in her classroom. It was felt that an arbitrary definition of the duties of the aide in the demonstration classrooms would inhibit the development of variances in function. Accordingly, broad guidelines were established with both teachers and aides, in separate meetings, but specific duties were not outlined.

Content for initial inservice for aides was the result of discussion and planning with the demonstration teachers. Content of inservice during the year was the outgrowth of needs expressed by both teachers and aides.

PROCEDURE FOR VISITATION

The demonstration classrooms were opened for visitation from January 3 to May 1. Circumstances regarding the arrival of equipment and supplies were partially responsible for postponing the opening date, but by mid-December it was apparent that prospective teachers and aides could begin observing in the classrooms after the Christmas vacation.

A procedure for processing visitation requests was established with the Personnel Department and with the principals of the respective schools, as follows:

- The principal of the school involved scheduled requests from parents within his school community.
- The Department of Instruction and CEEC scheduled other school personnel; i.e., Central Office personnel, elementary principals, and teachers currently in classrooms in Fairfax County and wanting a transfer to kindergarten.
- The Personnel Department sent a weekly list of prospective teachers and aides who wished to observe. They referred only those applicants deemed truly "prospective" and not all people applying for one of the two positions.
- All other requests were scheduled through CEEC. These included private school personnel, community leaders, representatives of PTA's, students in college courses, and people from outside the county.
- To distribute the number of visitors evenly among the seven centers, a register was kept in the CEEC office by the Administrative Assistant, who recorded the name, address, and telephone number of the person asking to observe. Each Friday morning, the Administrative Assistant set up the place and date of observation for the weekly list, recorded it in the register, and wrote individual letters to each person giving essential information. A brochure accompanied the letter, explaining the organization of the classes, the learning centers in the rooms, and observation procedures during the visit to the school and to the classroom.

- Every Friday afternoon a list of scheduled visitors for all classes was sent to each kindergarten teacher and to each principal. Thus, the teachers and principals knew who was visiting and when the visit was scheduled.
- Observation days were on Tuesday and Wednesday, with Thursdays scheduled if necessary. Most Thursdays were scheduled.
- Principals were asked to keep a register of all people visiting the kindergarten room--their names, the date, and reason for visiting.

INSTRUCTIONAL MATERIALS

Much of a kindergartener's learning is achieved through free, purposeful manipulation of instructional materials, either working individually, in a parallel relationship, or in groups of his peers. The activity may be self-selected or structured and directed by the teacher. Inadequate or inappropriate equipment and materials limit the effectiveness of the learning.

There should be a close relationship between equipment and materials and the program's curriculum objectives. Many kindergarten materials have a multiple-purpose and are not limited to or essential for the development of any one specific skill or objective. Other materials are essential in each of the various learning areas and can be termed basic equipment.

The criteria for selection of kindergarten equipment and materials for the seven demonstration classrooms (other than the usual criteria of durability, safety, simplicity, and cost) include the following:

- Is there a variety of forms of matter for manipulation, i.e., clay, wood, sand, water?
- Is there a progression from the concrete to the symbolic, i.e., a model of a truck, a picture of a truck, a word card truck?
- Is there a balance in the material provided for science, math, language development, social studies, art, and music?
- Are there items which are essential for developing a specific objective or skill?
- Can a single-purpose item be replaced by one with a multiple use?
- Is there a variety of both individually- and group-oriented materials? Can some of them be used either way?

- Are both vigorous activities and quiet activities accommodated?
- Is there a sufficient quantity of equipment or materials to accommodate parallel use?
- Is there material which can be used diagnostically and which should not be available for free manipulation by the children?
- Are the materials and equipment suitable for the age or maturity level?

Basic assumptions concerning the child's development are:

- that in the manipulation of certain materials a child progresses through a sequence involving
    - free, spontaneous manipulations, in which he discovers what he can do with a material;
    - guided manipulation, in which he is struggling toward the formation of an idea, a concept, or a product but may be unable to verbalize about it;
    - representative manipulation, in which he is able to visualize a product, work toward it, and verbalize about it.
- that a child progresses through certain stages of social development, such as
    - solitary play (he plays alone or watches others play);
    - parallel play (he plays alongside another child, enjoys being with him but is primarily interested in his own activity);
    - associative play (increased interest in playing with other children but both the group and the activity changing constantly);
    - cooperative play (group planning, possible when there is a definite interest in finishing an undertaking).

It was further assumed:

- that the teacher would recognize the unique or multiple-purposes of the equipment or materials.

- that the teacher would understand the developmental sequence involved.

- that certain areas such as emotional development and social learnings are integrated throughout the curriculum and are not the outgrowth of the use of specific material or equipment.

THE KINDERGARTEN DAY

In early childhood, the developing abilities to think, reason, and learn, follow an orderly sequence, a kind of "unfolding." It begins when the child first learns to move around within an environment; it advances when he becomes aware of what that environment is like; and it proceeds further when he can develop an ability to interpret what he sees and feels. In the terms of early childhood specialists, the unfolding involves "motor facilitation" (moving within an environment), perceptual development (awareness of his environment), and "symbolic realization" (the ability to interpret). The kindergarten should provide experiences in each of these areas of development.

The kindergarten day could be divided into four parts:

- work-play period
- snack
- outdoor time
- large group activities

About fifty per cent of the time is spent in the work-play period. Play in the kindergarten is not a purposeless use of time or an activity whose only purpose is pleasure. Play is the way a child learns what none can teach him. It is the way in which he explores his environment and orients himself to the real world of space and time; it is his work.

The words work and play are used together to differentiate between activities designated by the teacher and those chosen by the child himself. Both kinds of activities have definite instructional purposes behind them. (All equipment, materials, and activities in the kindergarten program have one or more instructional purposes.)

During the work-play period, the teacher is involved in direct instruction with a small group or with an individual child while the aide supervises other children in the various learning centers in the room. These centers include art, woodworking, blocks, dramatic play, library or reading activities, and manipulative materials such as puzzles, peg boards, and language games. In a corner of the kindergarten room, one group of children may elect to play with the big kindergarten blocks. In another corner, a second group may choose to paint. The "loner," who has not yet achieved the degree of social development needed to play or work with other children, may choose a story book or a manipulative puzzle from the shelf of easily accessible books and materials.

In block play, the children are not only experiencing muscular coordination but also creative expression and development of a sense of design and form. They are also gaining certain numerical concepts. They may discover, for instance, that a block wall, stretched across the floor, takes twelve blocks, that it would take fifteen books to cover the same distance, or eighteen toe-to-heel steps. During this discovery, suggested by the teacher, they have also come upon a new word: to measure. They had measured the number of books and the number of steps it took to cover the same ground as did the wall of blocks.

The children who are painting may have graduated from flat surfaces, where they could control the drips, to easels. Some may tell stories about their paintings and later dictate the stories to the teacher. She will print them in large block letters, just below the pictures. One of several kindergarten approaches to language arts, this activity is an early step toward learning to read.

The child who prefers to go it alone at this period has a variety of choices. He may choose to work with parquetry blocks, thus developing visual perception and eye-hand coordination. He may get involved in sorting and categorizing a collection of objects--perhaps sea shells --according to size, color, and shape. Or, if he has advanced to a degree of sociability, he may join in a game like Lotto, which develops an ability to see similarities and to discriminate between differences.

Work-play activities may also take the form of dramatic play and role playing, in which children pretend living the life of an adult. Little boys don the hat and suit jacket of the office worker, the boots and helmet of the fireman, the overalls of the farmer. Little girls put on high heels and long dresses to be hostesses, mothers, or teachers. This activity helps clarify not only concepts of roles but also of responsibilities.

Work-play activities may involve woodworking, with the teacher or aide in constant attendance. It may also involve the sand box and an opportunity--after experiences with clay, wood, paint, and blocks--to experience the properties of other media. The sand contributes to early mapping experiences in social studies; the metal of the sand box permits the use of water and a cience lesson through observing objects that sink or float as well as through basic measurement of liquids.

Snack time is also an instructional period, during which math and science concepts, language skills, and social learnings are developed.

The children are now ready for more vigorous physical activity and development. Outdoor time involves both direct instruction in certain motor skills and study of the natural environment. When the weather allows, the class may use the horizontal ladder, chinning bars, or play with large balls. Or it may go for a walk through the woods and with the teacher's guidance participate in nature study. The children may even plant their own gardens.

Back in the classroom, they engage in total group activities such as singing and various rhythmic activities. The latter may include choral speaking, especially of nursery rhymes and poetry, which little children love because of the rhythmic appeal. The teacher uses nursery rhymes to help develop a concept of rhyme itself, and thus to take the first step in studying word structure. Group discussion, which had its beginning with small groups, may involve a picture and general discussion of what it shows. The calendar, too, may be the subject of group discussion and a means of developing an understanding of the calendar's use in recording the day, the week, and the month. As a basic lesson in science, the children learn to "read" the thermometer, adding strips of colored paper to the calendar to denote the weather for the day.

These are only a selected sampling of the activities provided in each part of the kindergarten day—work-play, snack time, outdoor activity, and group participation. The activities are varied and the day is full.

BARRIERS ENCOUNTERED

Various barriers are attendant to the introduction of any new school program. Some barriers may originate in the identification of program goals and in the value attached to those goals by staff members responsible for planning, supervising, and coordinating a new project. In such instances, what is perceived by some personnel as a barrier to new approaches and procedures might not be similarly perceived by others. These are truisms upon which this section of the kindergarten report must rest.

When the Center for Effecting Educational Change was funded in late July, 1967, kindergarten was accepted as one of the three main study areas. The Planning Supervisor for Kindergarten was a member of CEEC. While a general outline of the role of this CEEC staff member had been written, it was expected that a clearer delineation of the role would evolve during the first year of the Center's existence. The concept of a CEEC study area, itself, involved a three-year period, with the first year spent in study, research, and planning, the second year in pilot projects, and the third year in evaluation.

At the time the School Board adopted the staff recommendation to establish demonstration kindergarten classes, the original kindergarten study committee had performed research and made plans of a general nature, recommending several approaches to implementation, but had not provided precise operational guidelines. However, with only one year before the opening date of kindergarten classes in all elementary schools, pilot classes were a necessity. The CEEC staff, therefore, had to assume that the kindergarten project was in the pilot stage—or second year of the three-year period conceptualized for study areas.

Thus, there were two built-in barriers at the time the Planning Supervisor assumed her duties: (1) an evolving role only generally defined and (2) a time factor which could not accommodate the planning conceptualized by the systematic change procedure of a CEEC study area. These barriers were related, as the following paragraphs will describe, and one tended to feed into and complicate the other.

Various phases of planning for implementation of kindergarten countywide involved all departments of the system's central office staff. It developed that personnel in each department had their own concepts of the responsibility, expertise, and especially the authority of the Planning Supervisor. Her authority to initiate planning was assumed in some departments and questioned in others. These varied expectations created an equally varied pattern of operations and procedures. And when a specific situation involved more than one department the difficulties were compounded and the time factor became increasingly apparent.

Time was a critical element when the deadlines of one department had to be met but several departments were involved in a related decision. Since many departments are not in the central office building, the Planning Supervisor frequently resorted to "walking through" a memorandum. The time factor was doubly compounded when departments disagreed on the form or content of a decision and return visits to several desks had to be made.

Time for planning was insufficient in the establishment of the demonstration classrooms. Less than one month was available for planning, organizing, selecting, and working out the various instructional and managerial details necessary for opening the classes.

Time was also a problem in attempts by the Planning Supervisor to perform the tasks outlined in her general job description. These included organizing and supervising the demonstration classrooms, evaluating the latter program, and planning for 1968-69. Organizing and supervising the demonstration classrooms and planning for 1968-69 encompassed far more than one person could realistically manage. The third area, evaluation, was shared by CEEC staff members. Recognition by the Department of Instruction of the scope of the CEEC Planning Supervisor's task led to shifting responsibility for the curriculum guide from CEEC back to the Department.

Time was again the culprit in erecting another kind of barrier. In organizing the planning for 1968-69, a time-line, using a systems approach was drawn up. The time-line scheduled deadlines for critical tasks--hiring personnel, meeting budget considerations, ordering equipment, completing the curriculum guide, and others--and identified personnel or departments responsible for each task. Ideally, the time-line should have been the product of conferences and cooperative planning by the Director of CEEC, the Planning Supervisor, and personnel in the various departments. Such an approach, however, would have required more time than was available, particularly of the two people who would have been involved in each conference. Therefore, a different approach was used. The Director of CEEC and the Planning Supervisor drew up the calendar, identifying the various tasks and the departments responsible for each, setting approximate completion dates, and specifying desirable lead time for each task.

The time-line instrument, itself, then acted as a barrier for CEEC because it seemed to some departments that CEEC was assigning responsibilities to them. To avoid just this kind of reaction, a model of the time-line instrument had been sent to those involved with a request for comments, revisions, and suggestions. Few were forthcoming. The instrument thereafter served more as a guideline for the CEEC Planning Supervisor than as an operational aide used by all departments.

Turning from the factor of time to the human element, while no one person could be identified as a barrier, certain modes of operation by persons in some situations acted as barriers. These modes of operation stemmed directly from a variety of factors: a tendency to resist change procedures, an inability to be open to or to accept new ideas, a lack of knowledge about the kindergarten child and of desirable curriculum content for the kindergarten program, and, finally, feelings of inadequacy or a sense of threat--all were identified as contributing to the erection of barriers.

Efforts by the CEEC Planning Supervisor to perform her role as she perceived it became a barrier at times. The barrier was particularly evident when her perception of the role did not conform with that of personnel in other departments. Attempts to carry out all of the tasks identified by various departments and by the role outline as well, however, were physically impossible.

Finally, inadequate secretarial help was an occasional but very real hindrance. Tasks which needed to be done included typing stencils, running them off, and collating reports; typing numerous and necessarily individual letters to persons observing the demonstration classrooms; answering telephone queries; taking dictation for memos and letters; and keeping the files in order. Having to share a secretary's time at times prevented efficient performance of a task.

In summary, the barriers identified during the year have resulted from role delineation (or lack of it), limited time, modes of operations, and not enough secretarial help during particularly busy periods. It would be impossible to rate these in any way; each was a hindering factor and each detracted from the kindergarten program.

PLANNING AND ORGANIZATION

The Chronology

In planning for kindergarten as an integral part of the Fairfax County Public Schools program, Supt. E. C. Funderburk and his staff followed several approaches. First, staff personnel—specialists in administration, facilities, personnel, curriculum, finance, and research—were selected to collect pertinent data. Second, nationally known educators in early childhood education were asked to serve as curriculum consultants during the ensuing years. Third, a member of the county's supervisory staff was given leave for one year to study early childhood education at Teachers College, Columbia University. And fourth, seven demonstration kindergarten classes were established and their teachers involved in a year of intensive planning and preparation immediately prior to initiation of kindergarten, countywide.

Target date for initiation was September, 1968, with a projected 7,000 kindergarten enrollment. Total years of planning were three.

I. STUDY COMMITTEE—April 1, 1966 to July 1, 1967

The Study Committee was organized April 1, 1966. During the following year and a half, it made these recommendations:

Facilities

- New buildings not already designed to be designed to include kindergarten
- The elementary school building program to provide space for kindergarten
- Kindergarten pupils to be housed in the neighborhood school if possible

- Boundary adjustments for 1967 and 1968 to be directed toward the general distribution of kindergarten space

- Tempos to be used for housing where space cannot be provided by other methods

- Flexibility to govern School Board planning of permanent facilities so that

  - Existing classrooms may be converted into kindergarten facilities in some schools

  - Two or three rooms may be added in other schools

  - A separate kindergarten building may be considered appropriate in some school communities

- The next bond proposal to carry an item which would go toward providing appropriate kindergarten facilities in all elementary school communities.

Organization

- The kindergarten program to be a part of the elementary school

- The plan of organization to be based on one of the following:

  Plan A - Dual (or cooperative) teaching by two teachers of approximately 20 - 25 children at each of two sessions, 8:30 - 11:30 A.M. and 12:00 - 3:00 P.M.

  Plan B - One teacher and a teacher aide for a full day with two groups of 15 - 20 children each, one in the A.M. and one P.M.

  Plan C - One teacher and an aide for two sessions per day of 2½ - 3 hours each, for 20 - 25 children.

Personnel

- The Virginia State Department of Education to adopt new guidelines for certification of teachers

- 300 teachers (based on Plan A and 150 spaces) to be considered as projected personnel requirement

- Role of teacher aide to be studied

- Primary grade teachers, plus teachers recruited from other sources (private school, new teachers returning to the classroom, etc.) to form nucleus for staffing of kindergarten classes

- College courses in early childhood to be offered in Northern Virginia area.

Finance

- Cost, including teachers and/or aides, supervision and administration, instructional materials, transportation, operation and maintenance, and fixed charges, capital and debt service for new construction and facilities, furniture and school buses, estimated at—

    - $3.5 million for Plan A

    - $3.2 million for Plan B

    - $3.0 million for Plan C

II. CURRICULUM AND CONSULTANTS—April, 1966, to July, 1967

- Members of the study staff delegated to work on curriculum made up a committee composed of teachers, principals, supervisors, psychologists and helping teachers. The following consultants worked with this group:

Dr. Ethel Thompson	- NEA	- Child Growth and Development
Dr. Jean Grambs	- University of Md.	- Culturally Deprived
Dr. Kenneth Wann	- Teachers College, Columbia University	- General Early Childhood Curriculum
Dr. Rose Mukerji	- Brooklyn College	- Language Arts
Dr. Herbert Sprigle	- Learning to Learn Laboratory	- Math and Language

(consultants continued)

Dr. Lucille Perryman	- Queens College	- Music, Science, and Play
Dr. David Wicken	- Peabody College	- Math
Dr. Bernice Blount	- Mills College	- Language Arts Linguistic Approach
Mrs. Adeline McCall	- Chapel Hill, North Carolina	- Music
Dr. Roach Van Allen	- University of Ariz.	- Language Experience Approach to Reading

- A curriculum workshop was held during June, 1967, to explore kindergarten curriculum and write a preliminary statement. This working paper was printed in July, 1967, and distributed to the Curriculum Committee and to the teachers preparing for the demonstration classes. Some of the consultants listed above worked with this group.

III. STAFF PREPARATION--1966-67

The member of the supervisory staff who had studied at Teachers College during 1966-67 returned to the school system in August, 1967, to assume the duties of Planning Supervisor for Kindergarten under the Center for Effecting Educational Change. She was charged with responsibility for more intensive and specific planning for the initiation of the kindergarten program in 1968, as well as for planning and preparation for and supervision and evaluation of the demonstration classrooms.

IV. DEMONSTRATION CLASSROOMS--August, 1967 - July 1, 1968

The School Board accepted the staff recommendation for seven classes to be established. The following actions were taken:

- Organizational Plan C was adopted, calling for--
  - . teacher and aide

- 20 - 25 children per session
- two sessions
- 2½ - 3 hours per session

- Basic equipment and materials were identified and ordered.

- Certain experimental equipment was ordered and distributed among the seven classrooms. Distribution lists were made out by CEEC supervisor.

- CEEC Administrative Assistant checked all invoices of equipment and worked out its distribution with warehouse personnel.

- Purposes, or objectives, of the classes were formulated.

- An evaluation design was drawn up.

- Director of Elementary Personnel and CEEC Planning Supervisor interviewed and selected the seven teachers from group which included:
    - experienced teachers with at least two years teaching experience; some teachers with kindergarten teaching experience, some with Head Start experience, and some with no kindergarten teaching experience
    - teachers who had been rated excellent or superior in past experience
    - teachers who seemed open to trying new materials or approaches to teaching
    - teachers who were willing to be observed frequently during their teaching.

- Personnel Department interviewed and selected aides for the demonstration classrooms from group which included:
    - persons with previous experience with young children, i.e., in nursery schools, private kindergarten, church schools
    - persons with two or more years of college or its equivalence.

- CEEC Planning Supervisor visited the seven schools and talked with principals about rooms selected for kindergarten classes, which included:

- three large rectangular rooms with built-in shelving, teacher's closet, and children's coat closet
- three new primary rooms, almost square in shape, with no built-in facilities
- one rectangular room of medium size, with some built-in shelving, a teacher's closet, and moveable storage and coat closet unit constructed by the county
    - all rooms containing a single toilet room, sinks, and drinking fountains.

- Transportation details for the seven schools were worked out.
- Inservice needs were identified by the CEEC Planning Supervisor and the following arrangements made:
    - inservice, as adopted by Department of Instruction, was to be scheduled for days of early school closing
    - CEEC Planning Supervisor to determine the content *of inservice*
    - Dr. Helen Robison of Teachers College to be a major consultant for the year.
- Inservice meetings for teachers and aides have been as follows:

September 5 - 8 (teachers only)	Dr. Robison, consultant, on Sept. 7-Orientation and planning the first days of school
September 8 and 15 (aides only)	Orientation: characteristics of the five-year-old, professional ethics of the aide, a-v training
October 12 (teachers only)	Equipment and learning centers in the kindergarten
October 26 (teachers only)	Dr. Robison - small group activities, language arts, and learning centers

November 3 (teachers and aides)	Dr. Beverly Crump, Supervisor of Art-developmental levels in the expressive arts
November 6 (teachers only)	Mrs. Adeline McCall, author of This Is Music - a creative music program in the kindergarten
November 7 (teachers and aides)	Dr. Ronald Dearden, CEEC staff - evaluation instruments and techniques
December 4 (teachers only)	Dr. Charles Davis, Supervisor of Science - AAAS program for kindergarten
December 13 (Centreville and Hollin Meadows teachers	Miss Elizabeth Hall, Montessori teacher - workshop on Montessori equipment
January 29 (teachers only)	Dr. Robison to visit Lewinsville, Centreville, and Westmore - a critique session with teachers in afternoon
February 12 (teachers and aides)	Mr. Lou Godla, Supervisor of Industrial Arts - workshop on the workbench
(teachers only)	Miss Elizabeth Hall, Montessori teacher to discuss "Montessori's Principles of Teaching"
March 11	Dr. Charles Davis - AAAS Program
April 8 (teachers and aides)	Dr. Ronald Dearden - evaluation
May 27 (aides only)	Evaluation
May 31 (teachers only)	Evaluation

- Management routines were worked out with respective departments in cooperation with CEEC as follows:
  - Directors of Food Services and Elementary Education—routines for snack in kindergarten
  - Director of Maintenance and Plant Operation—

custodial routines for cleaning of kindergarten rooms during noon time break.

- Visitation procedure for the demonstration classrooms was worked out cooperatively with the teachers.

- Members of the School Board and the administrative staff, were invited to visit the classes, the CEEC Planning Supervisor accompanying as many of these visitors as possible.

- A committee was appointed to make recommendations on reporting to parents for both demonstration classes and 1968-69 countywide classes. This committee, which began to function in November, was composed of the following:

  - Mrs. Ethel Carter, Elementary Supervisor
  - Mr. Darrell Huffman, Principal, Walnut Hill
  - Mr. Charles Koryda, Principal, Lewinsville
  - Mrs. Evelyn Valotto, Planning Supervisor for Kindergarten

- Committee submitted following report possibilities to Department of Instruction in December:

  A. parent conferences in January and June; teachers released from classrooms for this purpose

  B. conference in January and a written report in June

  C. written report, alone

- Department of Instruction adopted plan for written report to be sent to parents of children in demonstration classes in June and to be used as a model and revised if necessary for 1968-69.

- Report card went through following stages:

  - initial report card drawn up by committee
  - revised by principals of seven schools and elementary supervisors
  - revised by teachers

    - . revised again by Department of Instruction and CEEC staff

    - . adopted in April and printed for use in June, 1968

- Teachers of seven classes submitted lesson plans and curriculum ideas in specific areas to the Curriculum Committee.

- Teachers initiated and formulated their own home-school relationships through PTA, conferences, and parent orientation meetings. (Three teachers also talked to other parent groups outside the school area.)

- CEEC Planning Supervisor supervised classrooms on irregular basis, after January usually accompanied by visitors.

V. PLANNING—August, 1967, - July, 1968

Equipment and Materials

- With Dr. Sidney Schwartz of Teachers College serving as consultant, Mrs. Gertrude Winston of the Department of Instruction and Mrs. Evelyn Valotto, the CEEC Planning Supervisor, made the initial identification of equipment and materials for 1968-69 classrooms.

- CEEC Planning Supervisor drew up a list of sources and prices.

- The seven teachers and the CEEC Planning Supervisor revised the list, deleting some equipment and adding other, in light of personal opinions based on experiences in the demonstration classrooms.

- This list was submitted to the Department of Instruction and further revised in a work session with the Elementary Supervisors.

- Conferences with the Director of Supply and the Assistant Superintendent of Finance resulted in additional revisions.

- The list was divided into two categories, according to funding source: capital outlay, instructional equipment; current budget request for 1968-69 supplies.

- The list was submitted to the Department of Supply, which sent a cost-per-room estimate based on list prices to the Assistant Superintendent of Finance.

- Four representatives from the Department of Supply visited five of the kindergarten rooms with the CEEC Planning Supervisor and examined the equipment for specifications.

- Copies of the list of requested equipment and supplies were sent to the Superintendent of Schools, who, in turn, submitted it to the School Board.

- The list was discussed by the School Board at two meetings:

    - a general meeting, where the total budget for kindergarten was examined and questions asked of the CEEC Planning Supervisor, the Director of Elementary Education, and the Assistant Superintendent of Instruction.

    - a meeting to examine items on the list which should be included in the Table of Allowances, a kindergarten teacher and the Director of Elementary Education answering questions.

- A meeting in February was held with elementary principals and supervisors in each school area (6) to discuss all items on the equipment list, the plan for ordering, and delivery and storage considerations.

- The School Board directed the Department of Supply to order the basic list of equipment and materials, withholding action until a future time on the following items: polaroid cameras, sand-water tables, electric mixers, carpeting.

- The Department of Supply put items on bid and orders were made, with delivery of some items beginning in June.

- CEEC Planning Supervisor sent a memo to the Assistant Superintendent of Finance giving average cost of maintenance per year, per kindergarten room, to be used for future budget considerations.

- A committee was appointed to study and identify trade books to be recommended for purchase by the individual school libraries. This committee included:

Mr. Richard Hurley, Supervisor of Libraries
Mrs. Anne Blair, Coordinator of Fairfax County Public Libraries
Mrs. Beatrice Ward, Principal, Lake Anne
Mrs. Christine Fowler, Librarian, Lake Anne
Miss Nancy Calvert, Principal, Hollin Meadows
Mrs. Lydia Stagnaro, Librarian, Hollin Meadows
Mrs. Helen McDowell, Principal, Columbia
Mrs. Madeline Sharp, Librarian, Centreville
Mrs. Eda Caldwell, Librarian, Lewinsville
Mrs. Ruth McCrory, Librarian, Westmore
Mrs. Susan Bertz, Librarian, Walnut Hill
Mrs. Jane Forward, Librarian, Edsall Park
Mrs. Evelyn Valotto, Planning Supervisor for Kindergarten

- With the Supervisor of Libraries as chairman, the committee took the following action:
  - developed guidelines for working with the five-year-old and participated in area meetings as panel groups for discussing the guidelines
  - developed a book list for each librarian to be used as a reference when ordering new books
  - sent book list and guidelines for working with the five-year-old to the Curriculum Committee for incorporation in the guide.

Assessement of Facilities

- The Assistant Superintendent for School Services called a meeting of administrative and supervisory personnel to discuss assessment of the facilities of the individual schools.

- CEEC Planning Supervisor designed a form to be sent to each school, assessing central storage, room storage, toilet facilities, location of classrooms, and primary furniture on hand.

- The Department of Instruction, Department of School Services, and the Administrative Office revised the form and it was then sent to each school.

- The form was returned to the Department of School Services by the schools to be used for guidance in planning immediate renovations and future building additions.

- A committee was appointed to study the physical development of the five-year-old and to make recommendations for outdoor equipment to be purchased over a long-range period of time. The committee was composed of:

  Mr. Don Jones, Supervisor of Physical Education
  Miss Maxine Proctor, Principal, Fairfax Villa
  Mr. Charles Goff, Principal, Springfield Estates
  Mr. Harold Cushman, Principal, Parklawn
  Miss Adelaide Dale, Elementary Supervisor
  Mrs. Kathleen Michaels, Principal, Woodley Hills
  Mrs. Evelyn Valotto, Planning Supervisor for Kindergarten

- The study, assessment, and recommendations for the playground and equipment was postponed until the 1968-69 session.

Budget Preparation

- The CEEC Planning Supervisor discussed items for the kindergarten for 1968-69 with the Director of Elementary Education, drew up budget requests, and submitted them to the Director for further study.

Transportation for 1968-69 Classes

- A discussion between the Director of Transportation, his staff of supervisors and the CEEC Planning Supervisor in September, 1967, resulted in a decision to propose a 1968-69 budget item for transportation aides for the noon run.

- In February, a committee headed by the Associate Superintendent of Schools and composed of the Directors of Elementary Education and of Transportation and the CEEC Planning Supervisor met to consider drawing up a plan for noon transportation to submit to the School Board.

  . Elementary principals wrote to the Associate Superintendent telling of unique safety problems and concerns. (Contact by the Associate Superintendent with the Police Department indicated that less than 33 per cent of the crossing guards wanted to assume noon duty.)

- A plan was drawn up and submitted to the School

Board. The Associate Superintendent, the Director of Elementary Education, and the CEEC Planning Supervisor met with the Board and answered questions about the plan.

Public Relations

- Interest of the lay community in the kindergarten program was high in August and September, 1967. The CEEC Planning Supervisor participated in interviews for newspapers, radio, and television news program.
- CEEC Planning Supervisor and the staff photographer for the Media Center visited the classrooms upon several occasions in September through November to take slides and 16 mm. movie shots.
- Slides were made into a presentation by the CEEC Supervisor to be used for public groups. Two duplicate sets were sent to the Department of Instruction with a skeletal script for their use. (16 mm. movies were abondoned because of technical difficulties in filming.)
- CEEC Planning Supervisor and the elementary supervisors had many requests for talks to community groups, including:

  PTA's

  private schools

  Northern Virginia Private School Association

  Northern Virginia Ass'n. of Parochial Schools

  private cooperative groups
- CEEC Planning Supervisor met with small committees representing various cooperative schools to discuss the county program for 1968-69.
- CEEC staff Information Specialist wrote articles for:

  Northern Virginia Sun (3 articles)

  Local School - Community Paper (monthly)
- CEEC staff Information Specialist, at the request of the Department of Instruction, edited speeches

given by Dr. Kenneth Wann to the Curriculum Workshop in June, 1967. These speeches are to be printed and distributed by the Department of Instruction.

- CEEC Planning Supervisor reported progress to the Community Action Program Committee during CEEC's regular meetings with this group.

- CEEC Planning Supervisor met with the Educational Committee of the League of Women Voters and gave a presentation of the demonstration classrooms and planning for 1968-69. She met further with a subgroup of the Educational Committee to answer questions.

- CEEC office received numerous telephone calls asking for general information on the program, for employment, for answers to specific questions.

- Assistant Director of CEEC worked with Director of Elementary Education in determining a list of answers to questions commonly asked. This list was given to all departments so that incoming calls could be answered without referring caller to another department.

- Arrangements were made for visitation to the demonstration classrooms by private school personnel, PTA representatives, and others.

- Personnel from early childhood departments of local universities were asked to visit the demonstration classrooms. They were accompanied by the CEEC Planning Supervisor whenever possible.

- Filmstrips to be used during 1968-69 were designed by the CEEC Supervisor and an elementary supervisor. Slides were taken during March, April, and May for this purpose. Slides for one filmstrip have been assembled and an accompanying script has been written.

- A presentation was made to the combined groups of the Board of Supervisors and the School Board by the CEEC Supervisor.

- CEEC Planning Supervisor attended a five-day workshop on early childhood education in Daytona Beach, Florida, sponsored by Southern States Workshop. Representatives from eleven southern states attended.

- Pre-school registration of kindergarten children was held in each school during March to June. These were scheduled by the Fairfax County Health Department and Department of Instruction.

- Parent orientation meetings were held in some schools in April, May, and June.
- CEEC Supervisor met with representatives of book and equipment companies who requested conferences.

Staff Development

- CEEC Planning Supervisor gave briefing on status of the demonstration classes and planning for 1968-69 at area (6) principals' meetings in January. A written paper accompanied the briefing.
- Inservice for the 1968-69 kindergarten program is joint responsibility of Director of Staff Development and Department of Instruction. A committee was formed in February to plan inservice for 1968-69 kindergarten program.
  - The CEEC Planning Supervisor and two kindergarten teachers were members of this committee. Several meetings were held in the spring.
- Visits to exemplary programs in other systems by the CEEC Supervisor and elementary supervisors included the following:

Place	CEEC Supervisor	Elementary Supervisors and/or Principals
Alexandria, Virginia	x	x
Arlington, Virginia	x	
Fairfax County Private Schools		
Cooperatives	x	
Montessori	x	x
Privately owned	x	
Harrisonburg, Virginia	x	x
Greeley, Colorado	x	
San Diego, California	x	x
Sacramento, California	x	x
Los Angeles, California		
U.C.L.A. Lab School	x	x
City Schools	x	x
Jacksonville, Florida		
Learning to Learn School	x	x

Place	CEEC Supervisor	Elementary Supervisors and/or Principals
Ft. Lauderdale, Florida		
Nova School	x	x
New York City		
Riverside Nursery and Kindergarten	x	x
Horace Mann School	x	

Curriculum Development

- Decision made by Assistant Superintendent for Instruction and Director of Elementary Education in September, 1967, to have curriculum guide continue as responsibility of Department of Instruction.

- November brain-storming session of two CEEC staff members and two elementary supervisors resulted in ideas for curriculum team approach.

- CEEC evaluation specialist wrote paper, "The Curriculum Team," and sent to the Department of Instruction in December for consideration and/or approval.

  - Approval for curriculum team approach was given in February. Department of Instruction reorganized Curriculum Committee and formed Reaction Committee, a totally new committee.

  - First meeting of combined committees was held in March.

  - Curriculum Committee, now broken into subgroups, met many times during spring months for intensive writing. Substitutes were provided for classroom teachers serving on this committee. Two kindergarten teachers were members of the writing committee.

  - All kindergarten teachers contributed materials to be incorporated into the guide. This material was sent to the CEEC office to be forwarded to the chairman of the Curriculum Committee.

  - Material was sent to various members of the Reaction Committee, who noted reactions and returned it to the chairman of the Curriculum Committee.

  - Agreed that the Curriculum Guide is a working guide which will be expanded and revised over the next five years.

Personnel Selection

- Department of Personnel has sole responsibility for the selection of teachers and aides for 1968-69. (Special effort was made to visit colleges with strong and large early childhood departments.)

- CEEC Planning Supervisor sent a preliminary statement of the function of the aide as it was evolving in the demonstration classrooms to the Director of Elementary Personnel. Tasks had been identified by the teachers during one of the monthly inservice meetings.

- Numerous telephone calls to the CEEC office regarding employment were referred to the Department of Personnel.

Evaluation

- Several brainstorming sessions on evaluation of the demonstration classes were held in August and September, 1967, with participants from CEEC and the Department of Instruction.

- CEEC Evaluation Specialist and Planning Supervisors for Child Study and Kindergarten formulated:

  - objectives
  - evaluation patterns for subjects
  - evaluation techniques for other areas of program

- CEEC Evaluation Specialist performed following tasks for demonstration classes:

  - ordered standardized tests
  - trained teachers and aides to administer them
  - trained three part-time employees to do recording of data
  - set up form for collecting data
  - contacted each principal concerning data to be secured from his school

    - designed several instruments for obtaining data relating to equipment and materials, school-community relations, and reactions of participants to the program
    - had personal interview with each principal prior to the principal's completing the survey questionnaire
    - arranged for data from standardized tests to be key punched for computer analysis
    - analyzed and interpreted both standardized and non-standardized data

- Speech therapists screened children in all seven classrooms for discrimination and articulation.

SECTION II - EVALUATION

OBJECTIVES, METHODOLOGY, AND DATA COLLECTION

The major purpose of the pilot kindergarten program was to develop demonstration kindergarten classes at seven selected schools in Fairfax County which would yield information and recommendations for the implementation of a county-wide program in the 1968-69 school year. To meet this overall purpose, a set of 11 specific objectives were drawn up, as follows:

1. To observe characteristics of Fairfax County five-year-old children
2. To develop a broad outline in the academic and non-academic learnings
3. To determine appropriate activities for kindergarten children
4. To determine ways to individualize instruction at the kindergarten level
5. To examine the effectiveness of varied instructional and diagnostic materials
6. To determine the function of teacher aides and develop a system of inservice training for them
7. To assist parents in understanding the meaning of the kindergarten program and activities
8. To serve as demonstration centers for prospective teachers, aides, and other interested persons
9. To develop management routines
10. To develop alternate plans for evaluation
11. To study alternate patterns of class size.

While research from the demonstration program includes data not directly tied to these objectives, e.g., surveys of the perceptions of kindergarten personnel and an inventory of affective factors (see page 124), the objectives served as a framework for the research study and evaluation took the form of measuring the degree of attainment of the objectives by the demonstration program. The availability of evaluative instruments designed for kindergarten children is limited and is a deterring factor in assessing the progress of children in a kindergarten program. In the study here reported, however, appropriate instruments were selected from existing instruments when available or designed by the CEEC staff.

The research study involved a total population of approximately 320 kindergarten children and the seven teachers, seven teachers' aides, and principals of Centreville, Edsall Park, Hollin Meadows, Lewinsville, Springfield Estates, Walnut Hill, and Westmore elementary schools. The study did not include a control group because the total program was made up of only the seven schools and it did not seem feasible to secure a control group in another public school system or in private schools.

Procedures developed by the CEEC staff were designed not only to elicit and record data in an organized fashion but also to delineate selected factors. Objectivity was sought through use of instruments which could be cross-checked. Reliability was obtained by pre- and post-testing with standardized tests; orientation procedures with teachers and aides prior to initiation of evaluation; and CEEC staff determination following visits to various of the kindergarten classes. To maintain a high level of reliability, the competencies of the CEEC Kindergarten Planning Coordinator, psychologists, and evaluation specialists were used.

Standardized test data were reproduced on data cards for storage and a 360/30 computer was utilized to process and analyze data. The preliminary statistical work has begun and will be completed at a later date. Data from survey and questionnaire instruments have been processed and analyzed.

In the reports which follow, the various program objectives, as previously described, are accompanied by evaluation instrument(s) used in each case, and by conclusions and recommendations.

EVALUATION OF THE OBJECTIVES

OBJECTIVE 1: To observe the characteristics (as they related to social, emotional, physical, and mental development) of Fairfax County five-year-old children.

A. Metropolitan Readiness Test, administered on a pre- and post-test basis to pupils in the seven pilot schools. This test is designed to measure the development of pupils in various skills and abilities which contribute to readiness for instruction. It includes six subtests relating to word meaning, listening, matching, the alphabet, numbers, copying, and a correlated "draw-a-man" test that provides an index of perception, motor control, and general intellectual maturity. Findings derived from pre- and post-mean and standard deviation scores reveal the differing abilities of the children and also show a wide variance of readiness from school to school.

B. Wide Range Achievement Test, administered on a pre- and post-test basis. This test was devised to measure the development of pupils in reading (word recognition and pronunciation), spelling, and arithmetic. It also serves as an adjunct to intelligence and behavior adjustment tests. The subtests include: (a) reading—recognizing and naming letters and pronouncing words; (b) spelling—copying marks resembling letters, writing their names, and writing single, dictated words; and (c) arithmetic—counting, reading number symbols,

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and solving oral problems. Here, too, findings derived from the beginning and ending mean and standard deviation scores reveal the differing abilities of the children and show a wide variance of achievement from school to school.

CONCLUSIONS:

While further statistical treatment of the Metropolitan Readiness and Wide Range Achievement test data is necessary (and will be available in a forthcoming complete report) the following general conclusions can be made:

1. The pre- and post-test scores seem to reveal that gains were made by the kindergarten children on most of the test variables of the Metropolitan Readiness and Wide Range Achievement tests. As previously stated, however, the mean and standard deviation scores reveal a wide variance of readiness and achievement from school to school.

2. Test scores seem to indicate that the kindergarten program did not have similar effects for all the children. This conclusion holds true particularly when an analysis of the children's differing socio-economic levels within and among individual schools is made.

3. It is virtually impossible to develop a research design per se that provides all the answers during the first year of an experimental program. This is because of the repeated administrative and supervisory changes, on an almost day-by-day

basis, which an experimental program demands and because of the time and attention thus consumed.

RECOMMENDATIONS:

1. The research design for the 1968-69 school year should include a larger sample of kindergarten children.
2. It should attempt to assess different types of instructional kindergarten programs.
3. Consideration should be given to obtaining a control group from another public school system or from private schools.
4. Children from the 1967-68 experimental program should be compared during first grade with children who have had no kindergarten experience to determine the effect of the program on school adjustment and achievement. It is suggested that the Department of Instruction and the Research Department of the Fairfax County Schools initiate this study.
5. The primary school program should build upon the child's kindergarten experience if the latter is to have a lasting effect.

C. Wann-Robison Language Test, a non-standardized test devised by Dr. Kenneth Wann and Dr. Helen Robison of Teachers College, Columbia University, to provide screening of potential readers. Subtests include word recognition and sentence recognition tests. The test was administered to all demonstration kindergarten pupils in November as the first evaluation instrument in the program and exposed the children to their first testing situation. The instrument was appealing to the CEEC staff for two reasons: (1) it could be easily administered and interpreted by teachers and (2) it would provide a means of identifying and developing testing procedures and techniques for the kindergarten program. Previous success of the test in identifying early readers in a New York research project further indicated that the instrument would be extremely useful. The test, composed of a list of words and sentences common to the everyday life of children, had two parts: (1) a word recognition test of 26 words and (2) a sentence recognition test of six sentences. Working cooperatively, teachers and aides prepared individual word and sentence cards for the pupils, developed a master plan for test administration, and established techniques that were suitable and feasible for their particular classrooms. The test was administered by the teachers to each child on an individual basis in November.

It was concluded from findings of the test and interviews with the teachers that the test was useful in developing testing procedures and techniques and acquainting children with a testing situation, but it was not useful as a diagnostic device for Fairfax County kindergarten children. The findings revealed that only two children out of a total kindergarten population of 320 were identified as early readers. The words most commonly named by the children were "stop" and "go" and these were identified by only an insignificant number. (A possible explanation for the identification of these words is that these were used on classroom doors). Sentences were recognized and identified by only a few exceptional children, including the two early readers.

A follow-up interview with each kindergarten teacher and aide supported the test findings. Teachers stated that the test was not useful in identifying early readers and that their observations in classrooms could accomplish the same objectives, but, the test was useful in developing a testing procedure and acquainting five-year-old children with a testing situation.

The Wann-Robison Language Test was to have been given on a post-test basis in May, but it was deemed inadvisable due to earlier test findings, teachers' comments, and the fact that the standardized tests being used could yield similar but more pertinent data.

D. Wepman Auditory Discrimination Test, a test designed to measure a pupil's ability to recognize fine differences between the phonemes used in English speech. No visual ability but only the ability to hear accurately is necessary on the part of the pupil. In this test, the child is asked to listen to the examiner (speech therapist) read pairs of words and to indicate whether the words read are the same.

Test items consist of 30 pairs of words, each pair differing in a single phoneme (hereafter referred to as X scores) and ten word pairs not differing at all but serving as false choices, (hereafter referred to as Y scores). Comparisons are made between 13 initial consonants, 13 final consonants, 4 medial vowels, and 10 false choices.. The test is useful in indicating those children who seem delayed in developing auditory discrimination for speech, as well as those who are likely to have difficulty learning to use the phonics necessary for reading in the primary grades.

The test is scored according to the following factors: (1) X error or wrong scores represent the number of times the child has said "same" to word pairs that are different, and Y error or wrong scores represent the number of times the child has said "different" to word pairs that are the same; (2) all tests showing an X error or wrong score greater than 15 or Y error score greater than 3 should be considered invalid (children in this range are thought to have either hearing defects or poor motivation for following instructions); and (3) X error or wrong scores greater than 6 represent inadequate development of auditory discrimination for five-year-old children.

In the pilot kindergarten program, 276 children were tested by teams of therapists assisted by the volunteer help of parents and 6th grade pupils. Of the 13 A.M. and 13 P.M. classes of boys and girls tested, the following range of mean scores were obtained for X scores:

(a) A.M. Classes - boys	Range
X scores right	24.9 - 22.3
X scores wrong	7.7 - 5.1

(b) P.M. Classes - boys	Range
X scores right	*25.6 - 23.2
X scores wrong	6.8 - 4.4

(*School 6: 27.0 on Form 1 not included)

(c) A.M. Classes - girls	Range
X scores right	26.3 - 23.8
X scores wrong	6.2 - 3.7

(d) P.M. Classes - girls	Range
X scores right	*25.8 - 21.5
X scores wrong	8.5 - 4.2

(*School 6: 27.1 on Form 1 not included)

Nine of the 26 A.M. and P.M. classes had X error or wrong scores greater than 6, indicating inadequate development of auditory discrimination, as follows:

A.M. Classes, boys' groups - 2
P.M. Classes, boys' groups - 4
A.M. Classes, girls'groups - 1
P.M. Classes, girls'groups - 2

Two other classes (an A.M. girls' group and an A.M. boys' group) had X error or wrong scores of 6. Thus, a total of 11 A.M. and P.M. male and female groups, or 42% of the total population, had X error scores of 6 or more.

In addition, all seven of the schools reported a total of 55 invalid tests for the kindergarten children.

F. The Templin-Darley Tests of Articulation, a screening test of 50 items which indicates good or poor articulation by kindergarten and preschool pupils. Performance can be used to identify pupils who need a more thorough study of their speech--sound articulation. The test items were selected from 113 speech sound elements produced by children of this age. The screening test assesses the general adequacy of the child's articulation--sounds and sound combinations which are associated with significant progress in the development of articulation. Mean scores of the number of correct responses (50 possible correct responses), ranged from 32.0 to 49.1, were:

	Mean Scores
(a) A.M. Classes - boys	43.8 - 32.0
(b) P.M. Classes - boys	44.7 - 39.9
(c) A.M. Classes - girls	44.0 - 35.4
(d) P.M. Classes - girls	49.1 - 38.0

The number of children below the cut-off score (inadequate articulation) was 33 (less than 2 per cent). The 33 children with inadequate articulation included: 16 boys and 17 girls. The number of kindergarten children above the cut-off score (adequate articulation) was 185.

CONCLUSIONS:

- More than 98% of the kindergarten children seem to have adequate articulation according to the results of the Templin-Darley test.
- Both the Templin-Darley and the Wepman tests can be administered most effectively by utilizing a team approach. Speech therapists, parent volunteers, and 6th grade children, working together in a special classroom situation, can administer these tests to an average group of 40 to 50 children in an 1½- to 2½-hour period.
- There appears to be many kindergarten children who seem to have poor auditory discrimination according to the Wepman test.
- The large number (55) of invalid tests on the Wepman Auditory Discrimination tests could indicate: (1) hearing defects in the children; (2) poor motivation or lack of training in following test directions; or (3) inadequate test administration. There appears to be a need for more in-depth study of the Wepman test and other means of testing auditory discrimination by kindergarten children and of attendant implications for speech specialists and teachers.
- There appears to be a definite need to develop special techniques for increasing auditory perception or for increasing the visual modality of learning for the kindergarten children.

F. BEHAVIOR INVENTORY

Very little is known about teachers' and aides' opinions of kindergarten children. Various research studies have documented the importance of teachers' opinions and the fact that they are related to demographic variables such as sex and socio-economic status. Research studies have also frequently reported that teachers are more likely to describe boys than girls as maladjusted or as behavior problems and that children from well-to-do families are more likely to meet with success in school than are lower class children. In addition, there is considerable evidence that children who are described unfavorably by their teachers tend to: (1) describe themselves unfavorably; (2) be aware of their teachers' poor opinion of them; and (3) receive lower grades than children whom the teacher describes favorably.

The present study was designed to examine the perceptions of kindergarten teachers and aides and examine these differences as it related to the children's social, emotional and task-oriented behavior. Thus information on the characteristics of kindergarten children as perceived by teachers and aides would be obtained for future planning of the program. A selected sample of kindergarten children was picked from the morning and afternoon classes. The sample included 84 girls and 74 boys or a total of 158 children from a total kindergarten population of approximately 320 children. Both teachers and aides were requested to complete a Behavior Inventory[1] on the selected pupils. Children were rated on the following behavior traits: verbal expressiveness, hyperactivity, kindness, social withdrawal, perseverance, irritability, gregariousness, distractability, considerateness, self-consciousness, concentration, and resentfulness. Five types of behavior were described in each of the 12 traits, thus the total inventory consisted of 60 items. Teachers and aides were asked to describe the behavior of each child for each item, with the following options: (1) not at all like the child, (2) very little like the child, (3) somewhat like the child, and (4) very much like the child. In addition, the teachers and aides were requested to provide a rating on the level of adjustment of the child and another on the degree of confidence they had in their evaluation of their level of adjustment rating.

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[1] Classroom Behavior Inventory - developed by Dr. Earl S. Schaefer, May R. Aaronson and Betty R. Burgoon, National Institute of Mehtal Health, Bethesda, Md.

FINDINGS

1. Level of Adjustment

   Kindergarten children were perceived generally by both teachers and aides as being able to get along well and to have little or no difficulty adjusting to others or to classroom activities. Girls were thought to be slightly more adjusted than boys by both teachers and aides.

2. Degree of Confidence in Above Evaluation

   Both teachers and aides indicated that they had much confidence in their evaluations of the level of adjustment of the kindergarten children.

3. Verbal Expressiveness

   a. Both teachers and aides indicated the children were somewhat like pupils who readily talk about their toys, their clothes, what they are doing, etc.

b. Teachers perceived the kindergarten children as being somewhat like those pupils who will begin a conversation with another child, while aides thought them to be very little like such pupils.

c. Teachers and aides viewed the children as being very little like pupils who always have something to say in group discussion.

d. Teachers and aides viewed the children as being very little like pupils who like to talk about everything that happens to them.

e. Teachers and aides perceived the children as being very little like pupils who are quick to make a comment or ask a question about class activities.

4. Hyperactivity

a. Teachers viewed all of the kindergarten children as being very little like pupils who move frequently from one area of the classroom to another. Aides perceived girls as being very little like pupils who so move but boys somewhat like such pupils.

b. Both teachers and aides rated the children as very little like pupils who frequently twist, turn, or get up from their chairs.

c. Aides perceived all the children as being very little like pupils who will not sit still and listen to a story for a period of time; teachers saw girls, only, as being willing to sit still and listen to a story.

d. Both aides and teachers viewed all the children as being very little like pupils who squirm, tap their feet or fingers, or constantly change their position.

e. Both teachers and aides viewed boys as very little like pupils who like to run about aimlessly and rated girls even more favorably, indicating that they were not at all like such pupils.

5. Kindness

a. Teachers and aides perceived all the children as being very little like pupils who try to support or protect the child whom others attack.

b. Aides and teachers indicated that the children were very little like pupils who are kind enough to bring materials, toys, a cup of water, etc. to another pupil.

c. Aides perceived all the children as being very little like pupils who readily forgive those who have attacked them or taken their belongings, while teachers viewed only boys as being reluctant to forgive. Teachers thought girls were somewhat like such pupils or more forgiving than boys.

d. Teachers and aides viewed all the children as being very little like pupils who smile at or greet any child they meet.

e. Teachers and aides agreed that the children were very little like pupils who speak soothingly, or pat or otherwise comfort a child who is hurt or unhappy.

6. Social Withdrawal

a. Aides and teachers perceived all the children as being very little like pupils who play alone unless they are induced to play with others.

b. Teachers and aides viewed all children as being very little like pupils who rarely join in activities with others on their own accord.

c. Teachers rated all the children as not at all like pupils who prefer working alone and leave an activity if other children join them. Aides, however, rated only girls as like such pupils; boys they stated, were more likely to work alone and to leave an activity if other children joined them. They gave boys a very little like rating on this item.

d. Both aides and teachers agreed that all the children were very little like pupils who usually engage in solitary, individual activity.

e. Teachers and aides viewed boys as being very little like pupils who go off by themselves when others gather to sing, dance, or play and girls as not at all like this.

7. Perseverance

a. Aides rated all the children as being very little like pupils who work a long time to finish painting a picture, solving a puzzle, etc. Teachers viewed only boys as being like such pupils but felt girls should be given only a somewhat like rating.

b. Both teachers and aides indicated that all the children were very little like pupils who if not successful will try again after a first effort has failed.

c. Teachers and aides perceived all the children as being very little like pupils who are reluctant to leave a project once they have begun it.

d. Aides viewed all the children and teachers viewed boys, alone, as being very little like pupils who nearly always stay with tasks until they are finished. Teachers thought girls were more likely to finish a task than boys and indicated a somewhat like rating.

e. Teachers rated girls as being somewhat like and boys as being very little like pupils who will work with a form board, puzzle or other achievement toy for a long period of time, trying to get it right or complete it. Aides viewed both boys and girls as being very little like such pupils.

8. Irritability

a. Teachers and aides perceived all the children as being very little like pupils who get annoyed for trivial reasons.

b. Teachers viewed both boys and girls as being not at all like pupils who whine and complain if others won't give them their way, while aides viewed both boys and girls as being very little like such pupils.

c. Both aides and teachers agreed that all the children were very little like pupils who are inclined to flare up if teased or attacked.

d. Aides rated both boys and girls as being not at all like pupils who frequently have temper tantrums if they can't have their way; teachers indicated that girls were not at all like such pupils but gave boys a very little like rating, indicating they had more temper tantrums than girls.

e. Teachers perceived all the children and aides perceived the girls, alone, as being not at all like pupils who get impatient and unpleasant if they can't get what they want when they want it. Aides saw boys in a different way and provided a very little like rating, indicating that boys were more impatient and unpleasant in this situation.

9. Gregariousness

a. Teachers and aides perceived all the children as being very little like pupils who make the first friendly move not waiting for others to approach them.

b. Both aides and teachers rated all the children as being very little like pupils who seek others to come play with them, join in an activity with them, etc.

c. Teachers viewed the children as being, somewhat like pupils who join a group on their own accord, while aides felt that the children were very little like such pupils.

d. Teachers and aides agreed that the children were very little like pupils who approach others and invite them to play or work with them.

e. Aides perceived all the children and teachers perceived only boys as being very little like pupils who mix freely with a group and obviously enjoy group companionship. Teachers indicated that girls were somewhat like this or indicated they were more likely to join and enjoy a group.

10. Distractability

All teachers and aides indicated that the kindergarten children were very little like pupils who:

a. frequently do not finish a project or activity because they have lost interest;

b. often do not complete a task because other things have captured their attention;

c. can be distracted from what the teacher or aide is saying by any outside activity or noise.

d. center attention only briefly on what they are doing and then start something else;

e. are easily distracted from their own work by the various activities of others.

11. Considerateness

a. Aides rated all the children and teachers the boys only as being very little like pupils who will not take toys or equipment another child is using. Teachers seem to feel that girls are more considerate and only somewhat like such pupils.

b. Aides viewed all the children and teachers the boys alone as being very little like pupils who are careful not to disturb the activity of another. Girls were rated somewhat like this or slightly more favorably by teachers.

c. Teachers perceived all children and aides the girls alone as being somewhat like pupils who await their own turns willingly. Aides thought boys to be very little like such pupils.

d. Both teachers and aides indicated that all the children were very little like pupils who let others go first, hold doors open, try not to block the way, etc.

e. Aides viewed all children and teachers viewed boys only as being very little like pupils who are quick to say thank you or show their appreciation. Teachers thought girls were more likely to do these things and provided a somewhat like rating.

12. Self-Consciousness

Teachers and aides perceived all the children as being very little like pupils who:

a. have a low or unsteady voice when speaking before a group;

b. become less effective and skillful in their work when being observed;

c. speak to the teacher or aide in low uncertain tones and with much effort;

d. show less strain and are more relaxed if one tries not to notice them.

Teachers and aides differed on the following:

e. Teachers perceived all children and aides perceived the girls only as being not at all like pupils who will turn their head or look down and will not look an adult in the face. Boys were viewed by aides as being very little like such pupils.

13. Concentration

a. Aides and teachers rated all children as being very little like pupils who center their attention on what they are doing and whom nothing seems to distract.

b. Aides viewed all children and teachers only boys as being very little like pupils who remain quitely at work despite noise and other activity around them. Teachers viewed girls as being somewhat like this or better able to concentrate.

c. Teachers and aides indicated that both boys and girls were very little like pupils who become so absorbed in what they are doing they may not hear one talk to them.

d. Teachers perceived boys and girls as being somewhat like pupils who give their undivided attention to a toy or activity that catches their interest, while aides perceived the children as being very little like such pupils.

e. Aides and teachers agreed that all the children were very little like pupils who quickly became lost in their work and are unaware of other activities in the classroom.

14. Resentfulness

a. Teachers rated all the children as being not at all like pupils who sit and sulk if they have been reproved, while aides rated the children as very little like such pupils.

b. Teachers perceived all the children and the aides only the girls as not at all like pupils who remain angry a long time after a quarrel. Aides stated that boys were very little like such pupils.

c. Similarly, teachers viewed all children and aides only the girls as being not at all like pupils who sulk and won't participate in activities when not given their own way. Aides revealed that boys were more likely to do this and provide a rating of very little like such pupils.

d. Teacher and aides agreed that all the children were not at all like pupils who become angry when required to await their turn or share with others.

e. Aides and teachers rated all the children as being not at all like pupils who are slow to forgive when offended.

15. The findings revealed that girls are generally rated more favorably by both the teachers and aides than are boys in all of the categories.

16. There are numerous ratings which indicate differences in both teachers' and aides' perceptions as they relate to the sex of the kindergarten children.

17. There are numerous ratings that suggest specific differences between teachers' and aides' perceptions not only as they relate to the sex of the kindergarten children but also whether the children attend AM or PM classes.

18. The findings also revealed specific differences among individual schools, with pupils from the higher socio-economic schools perceived more favorably than were pupils from lower socio-economic schools.

G. ANALYSIS OF THE KINDERGARTEN INVENTORY

The Kindergarten Inventory was designed to provide information about the home-school background of children participating in the seven kindergarten classrooms. To carry it out, two research assistants from the CEEC office visited the seven schools and made an inventory on each child by referring to data on cumulative record forms originally supplied by the child's parent or guardian.

The findings of the inventory indicate the following:

- Sex distribution of the kindergqrten children was proportionate, with 52% boys and 48% girls. Sex distribution of the children in AM and PM classes within individual schools ranged from an equal distribution in an AM class to an unequal distribution, made up of 78% girls, in another AM class.
- Class size ranged from a high of 26 pupils down to a low of 19. The average class size of the 14 classes was 23.
- An analysis of the children's nursery school experiences revealed that 83% had had no such experience, 11% had had one year and 2% had had two or more years prior to kindergarten. Possible experience of additional 4% could not be determined because parents failed to answer this question.
- More than 96% of the children lived with both of their parents.
- The majority of the children (more than 97%) came from families of two or more children. Specifically, 24.8% came from families of 2 children; another 24.8% from families of 3 children; 16.1% from families of 4 children; and 12.7% from families of 5 children. Family size ranged from one child to thirteen children.
- Birth order indicated that 25.7% of the children were second children; 18.6% were first-born or the only child; another 18.6% were the third child in the family.

- Over 53% of the fathers had an education beyond high school. Of this 53%, 27.9% had a B.A. degree or beyond and 11.8% had a M.A. degree or beyond.

- More than 36% of the mothers had an education beyond high school. Of this 36%, 16.1% had a B.A. degree or more and 1.5% had a M.A. degree.

- Data on the father's occupation showed that 26.7% were professional or executive men, 13.3% were semi-skilled men, 12.7% were skilled men, 6.8% were technical men and the remainder were business or managerial men, military officers, workmen or laborers, and enlisted men. It should be noted that 21.7% of the records did not list the father's occupation.

- Information on the mother's occupation revealed that 88.5% were housewives (mothers working part-time are considered housewives), 4.6% were semi-skilled workers, 1.5% were domestic workers and another 1.5% were professional workers.

- Information on the kindergarten children's health was not available or non-existent in the schools' cumulative records.

- A considerable amount of information was omitted by parents in completing the inventory, particularly information on the educational and occupational levels of parents, children in the family, and medical history.

RECOMMENDATIONS

It is recommended that school cumulative records for kindergarten children be examined carefully and that great care be given to obtaining this information from parents when they enroll their children.

H. AN ANALYSIS OF THE KINDERGARTEN REPORT CARD*

The Kindergarten Report Card was organized into six categories, concerned with: (1) Development of Work Habits; (2) Social Development; (3) Physical Development; (4) Language Development; (5) Development of Expression in the Arts; and (6) Math and Science Development. Each of the categories had an evaluative continuum of most of the time, part of the time, seldom, and not at present. An analysis of the report cards for the 1967-68 school year revealed that children according to the teachers' evaluations were accomplishing the following most of the time:

1. Development of Work Habits

- 70% of the children work with a definite purpose
- 68% complete tasks
- 74% pick up materials and put them away in appropriate places
- 70% follow directions
- 82% use materials and tools purposefully and correctly
- 87% handle books properly
- 92% take care of needs and belongings
- 73% do routine tasks well
- 73% work without disturbing others

2. Social Development

- 71% work and play well with other children

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* This is an end-of-the-year analysis, which does not reflect differences from school to school.

- 66% listen when other children speak
- 83% share with other children
- 87% obey safety rules
- 93% practice good health habits
- 81% respect the rights and property of other children

3. Physical Development

- 84% have good motor control, especially of large muscles
- 75% are gaining small muscle control as evidenced in cutting, working with crayons, and handling objects
- 87% enjoy such physical activities as running, jumping, climbing
- 81% are able to relax
- 90% seem to have sufficient energy for the demands of the school day

4. Language Development

- 71% take part in informal conversation
- 71% express themselves well
- 92% enjoy books and stories
- 57% retell stories in proper sequence
- 65% create stories about their own or other pictures
- 59% hear likenesses and differences
- 72% take part in dramatic play

5. Development of Expression in the Arts

- 82% participate in singing
- 82% participate in rhythmic activities
- 89% create with paint, crayons, clay, wood, blocks, paste, and scissors
- 93% recognize and name colors

6. Math and Science Development

- 73% use numbers in real-life situations
- 78% observe differences and likenesses in size and quantity
- A breakdown of the percentages of children who can count to the following levels of attainment shows:

  15% of the children-- 0 - 25

  33% of the children-- 26 - 50

  7% of the children-- 51 - 75

  23% of the children-- 76 - 100

  10% of the children-- 100 and beyond

- 74% understand right and left
- 48% use proper scientific vocabulary
- 71% recognize numerals 0 - 10
- 64% are developing the scientific skill of developing, using space-time relationships, using numbers, and classifying.

- SUMMARY -

Both subjective and objective evaluations designed to assess the characteristics of Fairfax County five-year-olds seem to indicate considerable growth in the children's social, emotional, physical, and cognitive development. Additional subjective evaluations which will be discussed under the assessment of other objectives substantiate these findings.

OBJECTIVE 2: To develop a broad outline in the academic and non-academic learnings

OBJECTIVE 3: To determine appropriate activities for kindergarten children

OBJECTIVE 4: To determine ways to individualize instruction at the kindergarten level

The above objectives have been grouped together because they provided a general framework for teachers as they cooperated with the Department of Instruction curriculum committee in identifying and developing behavioral objectives and activities for the kindergarten curriculum guide. These objectives are not measurable per se with standardized or locally constructed instruments. A listing of various materials submitted to the curriculum committee can be found on pages 7-9 in Section I of the report. The Department of Instruction published in August a guide entitled, "Kindergarten Instruction - A Guide For Teachers" which provides specific guidelines for the development of the kindergarten program.

AN ANALYSIS OF THE KINDERGARTEN MATERIALS RATING SCALES

PART I

In late July of 1967, when the Center for Effecting Educational Change (CEEC) assumed the responsibility for planning and evaluating a pilot kindergarten program in Fairfax County, Mrs. Evelyn Valotto, Planning Supervisor for the Kindergarten Program, was assigned the task of selecting instructional materials for the project. This assignment constituted:

OBJECTIVE 5: To examine the effectiveness of varied instructional and diagnostic materials.

Working in close cooperation with CEEC staff members and staff members of the Department of Instruction, Mrs. Valotto analyzed, and selected various materials for the kindergarten program which was to begin the second week in September. Ordinary problems of having enough lead time in organizing, planning, and implementing a Federal program were encountered. Lack of sufficient time in the first place was compounded by the need to establish and implement a clear delegation of authority by all school personnel involved--CEEC personnel as well as other Fairfax County personnel--and to coordinate procedures with goals in the kindergarten program. This latter situation, typical of that in many schools systems, led to the selection of instructional materials by a small, specialized group. Believing that the kindergarten teachers should have been involved in the selection process in the first place, the CEEC staff concluded that teacher assessments of the materials should be made and that these assessments should be published to assist other kindergarten teachers, supervisors, and administrators.

Two survey instruments "The Kindergarten Materials Rating Scales (Parts 1 and 2)" were designed to evaluate the instructional materials used in the seven pilot kindergarten programs. The instruments included a classification scheme that placed materials in the following categories:

teacher materials
blockbuilding center materials
reading/library center materials
mathematic materials
general classroom materials
manipulative materials
workbench center materials
social studies materials
housekeeping center materials
listening center materials
music center materials
Montessori materials
other miscellaneous materials

Part 1 of the rating scales attempted to obtain teacher assessments of the availability, the adequacy, suitability, and frequency of use of the materials for the kindergarten program. Part 2 attempted to obtain teacher evaluation of the materials for specific instructional areas in the kindergarten program; teachers were requested to indicate whether specific materials were essential, desirable, enriching, or of no value to specific instructional areas.

These survey instruments were developed on the theory that instructional materials are crucial to the learning process. Ordinarily, school personnel must accept or reject the instructional materials available to them on the basis of prediction alone. The CEEC staff, however, attempted to assess how the teachers felt about the materials, how they used the materials in particular areas, and whether the materials were effective in contributing to the purposes of the kindergarten program. Through evaluation, the teachers then had some information that would help them to maximize instructional results.

An analysis of the highlights of the evaluation is reported in the following reports. Evaluations were obtained from the original seven kindergarten teachers and a teacher appointed to the program in the spring. (The latter, formerly an aide, was assigned to the position when one of the original teachers resigned.) An analytical framework for interpreting the results has been constructed. A significant evaluation is one in which 5 or more teacher responses (62.50 per cent or more) were received for specific instructional materials. These ratings are identified by an "S".

FINDINGS OF PART I:

- The scope and diversity of the instructional materials provided for the Fairfax County demonstration kindergarten program appear exemplary when compared to similar programs across the country. Comments received from consultants, visitors (teachers and aides), and interested persons support this finding.

- The materials afforded the teachers a unique opportunity to experiment and design programs geared to meet the varying cognitive, social, physical, and emotional needs of the individual five- and six-year old children enrolled in the program. No two of the seven kindergarten classrooms had exactly the same equipment and materials.

- Various instructional materials were reported by some teachers as not being available. Teachers were asked to indicate, however, whether they would use the materials had they been available.

- The overall amount of available instructional materials was rated "adequate" to "extremely adequate" according to teacher evaluations and comments. Instructional materials were categorized into 15 areas for evaluation purposes and 12 of the 15 areas received "S" ratings. "S" ratings were received for polaroid cameras and teacher bookcases under teacher materials; trapezoidal tables under general classroom materials; tables and chairs for housekeeping centers; sand-water tables; circles, squares, and triangles under manipulative materials; tape recordings, head sets, records, and television under listening center materials; autoharp under music center materials, and all Montessori materials.

- "S" ratings in regard to amount of available materials showed:
  - . 6 of 8 different kinds of teacher materials were rated "S"
  - . 5 of 9 classroom types of materials
  - . 8 of 9 housekeeping center materials
  - . 13 of 13 blockbuilding center materials
  - . 10 of 12 manipulative materials
  - . 2 of 2 workbench center materials

  - 4 of 4 science materials
  - 10 of 13 art center materials
  - 2 of 2 mathematics materials
  - 1 of 1 social studies materials
  - 5 of 8 miscellaneous materials
  - all Montessori materials by each of the three teachers who had them

- Three centers—the listening center, reading/library center, and music center—were rated inadequately equipped with instructional materials. The following ratings were given these areas:
  - 3 of 5 listening center materials
  - 2 of 2 reading/library materials
  - 3 of 5 music center materials

- Equipment and materials or related items cited by teachers as inadequate included:
  - storage space, sometimes because of inefficient design for use of existing facilities and space; teachers' bookcases, storage cabinets for paper, globes, bookcases for the children's books, and storage for materials
  - tape recorders and records for the listening centers
  - reading and picture books for the reading/library centers
  - music books and rhythm instruments for the music centers
  - construction paper, various types of paint, and paste for the art centers
  - planes, trucks, trains, and miscellaneous items

More than 60 per cent of the teachers indicated that globes, records, reading books, and construction paper, were inadequate while more than 50 per cent of teachers indicated that tape recorders, music books, rhythm instruments, and liquid tempora paint were inadequate in supply.

- In the narrative sections of the evaluations, a majority of the teachers urged that the kindergarten program have its own supply of records and books. They viewed the reading/library center and the listening center as important to the cognitive growth of children.

- Frequency of use of the various instructional materials was given on a continuum ranging from almost daily use to very seldom. An analysis highlights the complexity and diversity of the kindergarten program and indicates the following:

  - 7 of 8 kinds of teacher materials and 7 of 9 general classroom materials were used on a daily basis and given "S" ratings by the teachers.

  - "S" ratings for almost daily use of instructional materials were given to:

    8 of 9 housekeeping center materials
    10 of 13 art center materials
    7 of 13 blockbuilding center materials
    4 of 12 manipulative materials
    3 of 5 listening center materials
    2 of 2 specific reading/library center materials
    2 of 5 music center materials
    1 of 2 workbench center materials
    1 of 4 science materials
    7 of 8 miscellaneous materials

- Most of the instructional materials were used on a daily basis in the kindergarten program. Other materials, however, were used as follows:

- instructional materials in the blockbuilding centers, manipulative centers, listening centers, music centers, science centers, and art centers and social studies materials, used on a continuum from weekly to very seldom
- globes, pitch pipes, and finger paint rated by more than 60 per cent of the teachers as being used very seldom or infrequently
- snapping, zippering, and buttoning frames; balance boards; lacing shoe; and chalk rated by more than 50 per cent of the teachers as being used very seldom or infrequently

- In analyzing the information on frequency of use of instructional materials, the following points should be considered:

(1) The materials are specifically designed for five- and six-year-old children in kindergarten or related instructional programs.

(2) They are diversified in design and use so that children of differing abilities can profit.

(3) Children's varying abilities and experiences from their socio-economic backgrounds lead them to utilize and profit from materials at differing rates

(4) Some materials are used only at specific times during the year and children then move on to other materials commensurate with their abilities.

(5) Certain types of materials, e.g. puzzles, are in use every day but vary in content, complexity, or form.

- Instructional materials rated by the majority of the kindergarten teachers as very suitable to fairly suitable are as follows:

4 of 8 teacher materials
6 of 9 general classroom materials
4 of 9 housekeeping center materials
6 of 13 blockbuilding center materials
9 of 12 manipulative materials
4 of 5 listening center materials

2 of 2 reading/library center materials
4 of 5 music center materials
3 of 4 science materials
11 of 13 art center materials
1 of 2 mathematic materials
1 of 1 social studies materials
3 of 3 Montessori materials
7 of 8 miscellaneous materials

- Those instructional materials receiving ratings from teachers as being "not very suitable" or "unsuitable" were: globes, zippering frames, and pattern boards. Approximately 50 per cent of the teachers identified snapping and buttoning frames and the lacing shoe as being "not very suitable" or "unsuitable."

- Additional information derived from the teacher's comments about the infrequent use of and/or unsuitability of certain of the instructional materials suggests the following:

  A. The materials duplicated in function other preferred items; e.g. the pitch pipe and the piano, the math guide and AAAS manual and the Lincoln logs and other block builing materials.

  B. Certain instructional materials had limited use in terms of the children's growth and development. Several comments pointed to the suitability of the materials in the first semester and their unsuitability in the second. It should be remembered, however, that this finding did not hold true for all children in the program.

  C. The material was either defective in quality or did not meet the teacher's specification. The stove, globe, and various art materials are illustrative of this problem.

  D. The teacher was unfamiliar with the instructional material; e.g. the workbench and accessories, and the rope and pulley; or unskilled at using, e.g. the piano.

- Teachers requested the following miscellaneous instructional materials: additional toys for boys; puppets of people, including Negro as well as Caucasian puppets; additional dress-up clothes; and more equipment and supplies for the housekeeping centers.

FINDINGS OF PART II

Instructional materials categorized by the kindergarten learning centers were rated on a scale that assessed whether materials were essential, desirable, for enrichment, or of no value. The findings indicated that most instructional materials received a greater number of essential ratings than of other ratings.

Although the value of the various learning centers to the program was perceived differently by different teachers an analysis of the total data reveals that the teachers rated the majority of the learning centers and their instructional materials as essential to specific academic and non-academic areas, as follows:

A. Each of the eleven (housekeeping, blockbuilding, manipulative, listening, reading/library, workbench, music, science, art, mathematics, and social studies) was considered essential to the development of the language arts.

B. Nine learning centers were rated as essential to the development of mathematics.

C. Eight and seven learning centers were viewed as essential to the development of social studies and science, respectively.

D. Four learning centers were considered as essential to the development of art, spontaneous play, social adjustment, and muscular coordination.

E. Two learning centers were seen as essential to the development of music.

F. No learning centers were viewed as essential for the development of emotional stability and general health.

These findings show the varying reactions as far as essential ratings were concerned and the differences in teachers' perception between academic and non-academic areas; e.g., language arts as contrasted to emotional stability.

While evaluations of various learning centers are important, especially if rated as essential, of equal importance is a detailed examination of those instructional materials within each center which were rated as essential. Toward this purpose, "s" ratings (i.e., from 5 or more teachers) were analyzed to indicate how many specific instructional materials were regarded as essential to the following academic and non-academic areas:

A. Language Arts: 7 out of 9 housekeeping center materials; 4 out of 5 listening center materials; 3 out of 12 manipulative materials; 3 out of 13 art center materials; 2 out of 2 reading/library center materials; 1 out of 1 social studies material; 1 out of 5 science center materials; and 1 out of 1 of the centers' miscellaneous materials.

Summary: Instructional materials of 8 of the centers were viewed according to the "S" criteria as essential to the development of language arts.

B. Social Studies: 8 out of 9 housekeeping center materials; 4 out of 5 listening center materials; 3 out of 13 block-building center materials; 2 out of 2 reading/library center materials; 1 of the 1 social study material; 1 out of 4 music center materials; 1 out of 12 manipulative materials; and 1 out of 13 art center materials.

Summary: Instructional materials of 8 of the centers were rated according to the "S" criteria as essential to the development of the social studies.

C. Mathematics: 5 out of 13 blockbuilding center materials; 4 out of 12 manipulative materials; 2 out of 2 reading/library center materials; 2 out of 2 workbench center materials; and 1 out of 4 science center materials. It should be noted that none of the mathematics materials achieved the "S" rating criteria or were considered essential to the mathematics area by five or more teachers. The AAAS Science unit, however, was rated by all 8 teachers as essential to mathematics.

Summary: Materials of 5 centers were perceived according to the "S" criteria as essential to the development of mathematics.

D. Science: 3 out of 4 science center materials; 2 out of 2 reading/library center materials; 2 out of 12 manipulative materials; and 1 out of 13 blockbuilding center materials.

Summary: Instructional materials of 4 centers were viewed according to the "s" criteria as essential to the development of science.

E. Art: 12 out of 13 art center materials and 2 out of 2 reading/library center materials.

Summary: Instructional materials of 2 centers were rated according to the "S" criteria as essential to the development of art.

F. Music: 3 out of 4 music center materials and 3 out of 5 listening center materials.

Summary: Instructional materials of 2 centers were perceived according to the "S" criteria as essential to the development of music.

G. Spontaneous Play: 8 out of 9 housekeeping center materials; 4 out of 13 blockbuilding center materials; 3 out of 12 manipulative materials; 1 out of 13 art center materials; and 1 of 1 miscellaneous materials.

Summary: Instructional materials of 5 centers were viewed as essential according to the "S" criteria to the development of spontaneous play.

H. Muscular Coordination: 9 out of 13 blockbuilding center materials; 8 out of 13 art center materials; 4 out of 12 manipulative materials; and 2 out of 2 workbench center materials.

Summary: Instructional materials of 4 centers were perceived as essential according to the "S" criteria to the development of muscular coordination.

I. Emotional Stability: No instructional materials received "S" ratings (5 or more teacher ratings of essential).

Summary: Teachers did not rate any of the instructional materials as essential to emotional stability. This might be expected because emotional stability is an outgrowth of activities throughout the kindergarten curriculum and not of the use of special materials.

J. Social Adjustment: 9 out of 9 housekeeping center materials and 4 out of 13 blockbuilding center materials.

Summary: Instructional materials of 2 centers were rated according to the "S" criteria as essential to the development of social adjustment.

K. General Health: only 1 out of 9 housekeeping center materials were seen according to the "S" criteria as essential to the development of this area.

Most of the teacher ratings followed a frequency pattern indicating that instructional materials were placed on a continuum from (1) essential, to (2) desirable, to (3) enrichment, and to (4) of no value. While there were ratings that did not follow this pattern, these ratings were usually explained by the relationship that existed between the type of material and its specific purpose within an instructional or non-instructional area. For example, the blockbuilding center materials could not be rated as of value to music.

Findings indicated that the teachers did not agree, at least not to any meaningful extent, that instructional materials in any of the centers were of no value.

Findings also indicated a high degree of specificity in some of the instructional materials in certain learning centers, i.e., a learning center rated high for a specific instructional area was sometimes considered as having limited use in other areas. For example, the art center instructional materials were rated as essential to art and the science center instructional materials were rated as essential to science. The high specificity of these instructional materials contrast with the more general applicability of materials in such centers as reading/library and housekeeping, which were perceived by the teachers as essential to many of the instructional and non-instructional areas of the kindergarten program.

An analysis of the total teacher responses to the rating scale continuum was developed to determine how instructional materials in each center were rated. This analysis is not an "S" rating but rather a total count of the number of essential desirable, enrichment, and no value ratings for all materials in the individual learning centers. A sample of this analysis reveals the following generalizations:

A. Housekeeping center materials were essential to 5 areas (language arts, social studies, mathematics, spontaneous play, and social adjustment); desirable to 4 areas (science, muscular coordination, emotional stability, and general health); enriching for art; and of no value to music.

B. Music center materials were essential to 3 areas (music, language arts, and social studies); desirable to 5 areas (mathematics, science, muscular coordination, emotional stability, and social adjustment); enriching to spontaneous play; and of no value to general health.

C. Mathematic center materials were perceived as being essential to 3 areas (mathematics, science, and language arts); desirable to 4 areas (social studies, music, emotional stability, and social adjustment); enriching to none of the areas; and of no value to 4 areas (art, spontaneous play, muscular coordination, and general health). This finding may appear to be contradictory to the comment under C, page 90, regarding mathematics materials. It should be remembered, however, that "S" ratings represent agreement by five or more teachers while the evaluation continuum refers to a number fewer than five.

Teacher ratings of instructional materials revealed a lack of knowledge concerning the use of:

Item	Respondents
rope and pulley	3
perception plaques	2
water colors	2
balance scale	1
parquetry blocks	1
snapping frames	1
zippering frames	1
buttoning frames	1
pattern boards	1
sequence boards	1
tape recorders	1
television	1
listening centers with headset	1
phonographs	1
workbench and accessories	1
piano	1
pitchpipe	1
magnets	1
math teacher guide	1

CONCLUSIONS (Parts 1 and 2)

The research findings of this study support the following conclusions:

A. Adequacy and diversity of instructional materials were cited by kindergarten teachers, (as well as, incidentally, by consultants and visitors,) as important factors in developing the instructional program. Teacher assessments indicated that the instructional materials were adequate to extremely adequate for the kindergarten program. Only three of the various learning centers had inadequate materials (listening, reading/library, and music,) according to the teacher evaluations.

B. The majority of the instructional materials were used on a daily basis. It should be noted, that the individual ratings for specific materials and/or for materials within a specific learning center varied considerably, depending upon the type of material and its purpose as well as on its application to academic and non-academic areas.

C. The majority of the instructional materials were perceived by the teachers as ranging from very suitable down to fairly suitable for the kindergarten program. Teachers indicated that the materials served as one means of attaining the objectives of the kindergarten program.

D. In evaluating instructional materials as essential, desirable, for enrichment, or of no value to specific academic and non-academic areas, most of the teachers indicated the materials were essential. Teachers were reluctant to assign a no value rating to materials and often did not respond at all if they could not categorize the material as essential, desirable, or for enrichment.

E. According to the evaluations, the teachers appeared to perceive relationships among and between instructional materials and specific academic and non-academic areas. Materials in all the learning centers were seen as important to the development of language arts, some materials were viewed as important to spontaneous play, and only a few materials were perceived as important to a specialized area such as music.

F. These evaluations also indicate that the teachers were unable to use all instructional materials effectively and suggest that the best use of materials was made in subject matter fields, where there is a direct tie-in between skills and materials. The evaluations also reveal that the teachers did not perceive all the possible relationships between the various instructional materials and one or several of the areas, for example, spontaneous play and mathematics, and also that they did not know how to use certain equipment and materials normally found in classrooms.

G. The findings also suggest that teachers did not understand how to present and use some instructional materials in a progressive sequence. For example, the use of bead design could progress from a concrete stage to a symbolic stage by being introduced on a visual, concrete level with colors, progressing toward developmental stages that use shapes and colors and variations of colors within shapes, to a pictorial stage with complexities in design, and on to an abstract or symbolic stage where the child creates his own design. The same method could be followed with other instructional materials in the kindergarten program.

H. There appears to be a relationship between those instructional materials frequently used and those considered essential for the development of specific academic and non-academic areas. For example, when analyzing the "S" ratings (5 or more teacher ratings) for frequency of use and the essentiality of materials, the following samples of representative information were derived:

1. Unit blocks are used almost daily in the block-building center and were considered essential in language arts, social studies, math, science, spontaneous play, muscular coordination, and social adjustment.

2. Pots, pans, and cutlery are used almost daily in housekeeping centers and were considered essential in language arts, social studies, spontaneous play, and social adjustment.
3. Records are used almost daily in listening centers and were considered essential to language arts, social studies, and music.
4. The mathematics guide for teachers was not used daily and was not considered essential to any academic or non-academic area.

These findings suggest that those materials perceived as essential get the most frequent use. It also seems to indicate that familiarity with a material affects the frequency of use. Thus, subjective perception of the essentiality of a material to a specific area, knowledge about effective use of the material, and understanding of how materials from one area can be related to another--all are important variables that need to be explored in greater depth.

I. It follows that there is an apparent gap between what teachers are expected to do with instructional materials and the level of instructional performance in the kindergarten program. This strongly suggests that teachers need special, in-depth, pre- and in-service training to use instructional materials to the greatest advantage.

RECOMMENDATIONS

The following recommendations are offered in planning a further investigation of instructional materials in the kindergarten program:

A. While the teacher respondents to the evaluation of instructional materials represented the total number of personnel involved in the kindergarten project (8), this sample is limited for drawing definite conclusions. It is strongly recommended that a larger sample of teachers (50 or more) be included in a future research design and it is essential that the research design be implemented prior to the onset of the program.

B. Teachers should be actively involved in the selection and evaluation of instructional materials for the kindergarten program. A representative sample of teachers should be involved in the actual selection process, following and revising the criteria developed for the pilot kindergarten program, and a larger sample (50 or more) should be involved in the assessment of the materials.

C. There is a definite need to implement an orderly and intensive pre- and in-service program dealing with instructional materials for teachers and aides. These programs need specifically to deal with (1) the most recent research findings relating to instructional materials, (2) the development of a basic understanding of how to use instructional materials to maximize instruction, and (3) the development of a pattern for sequential instructional activities.

D. There is a need to refine the existing evaluation instruments as well as to develop additional instruments that will assess how effective instructional materials are in contributing to the attainment of the objectives of the kindergarten program. For example, certain of the following heuristic questions could be raised: 1) how often do pupils use the available materials?; 2) how often do teachers change the materials available to them?; 3) is a sequence of materials visible in classrooms?; 4) what is the relationship of standardized test data to the use of instructional materials?; and 5) what are the implications for the first-grade program in terms of instructional materials usage?

OBJECTIVE 6: To determine the function of teacher aides and develop a system of inservice training for them.

For this objective, a survey instrument was designed by the CEEC staff to collect information on the background of aides and teachers, their perceptions regarding the types of duties performed by aides, and their assessments of the contribution of the aides to the kindergarten program. Both teachers and aides were requested to complete the survey. This information provides baseline data for formulating the role of the aides in the kindergarten program and will be used in developing future plans.

The survey instrument grouped the duties of the aides into the following six categories:

1. direct instruction prescribed by the teacher and/or spontaneous activities under direction of the teacher with the aide providing instruction,
2. instructional support in prescribed activities under the direction of the teacher,
3. technological support involving the use of audio-visual equipment and materials in teacher prescribed activities,
4. clerical support which was teacher prescribed activities that are directed toward preparing materials, recording pupil progress, and recording other data
5. monitorial support of supervisory duties,
6. housekeeping support to maintain a classroom conducive to the teaching-learning process.

Analysis of Data

The research findings of the survey showed that:

- Educational attainment of the teacher aides consisted of four years of college with degrees by two aides, three years of college by two aides, two years of college by one aide, and high school education for two aides.

- The aides''previous experience in working with young children consisted of church work, summer camp work, scout work, and baby sitting. In addition, six of the aides were mothers, with a total of 19 children between them.
- All the kindergarten teachers had B.A. degrees or more, numerous hours in early childhood education courses, and three of the teachers had M.A. degrees.
- Previous experience of teachers in working with young children consisted of teaching in elementary schools (grades 1-6), kindergarten, Head Start, and college. Other experience mentioned included church work, summer camp work, tutoring, baby sitting, and working as a physical therapist. Three of the teachers were parents with a total of seven children among them.
- Analysis of the teachers' perceptions of duties assigned to aides and the aides' perceptions of duties performed in the six categories revealed that:

  a. Instructional support was viewed by both teachers and aides as the area of greatest aide participation.

  b. Aides indicated that they performed as many or more housekeeping duties as they did instructional support duties; however, teachers seemed to feel that they assigned fewer housekeeping functions to the aides.

  c. Teachers and aides agreed on the amount of monitorial support duties they assigned or performed.

  d. Teachers and aides generally agreed on the functions performed in the categories of instructional support, technological support, and monitorial support.

  e. Combined responses of teachers and aides indicated that duties were ranked in the following order:

Instructional support - largest number of responses
Housekeeping support
Clerical support
Technological support
Monitorial support
Direct instruction - least number of responses

- Aides indicated that they worked daily in the areas of housekeeping support (7), monitorial support (7), instructional support (6), and clerical support (5). They also revealed that they frequently performed technological support duties (4), and indicated extreme variance (ranging from daily to never) in how often they performed direct instruction duties.

- Teachers' and aides' responses were nearly similar except for responses dealing with technological and direct instructional support. Illustrative of differences in responses relating to these areas are the following:

  a. Direct Instruction

     - While six teachers believed they had assigned the teaching of an AAAS Science lesson to the aides, only three aides believed they had ever performed this function.

     - Teaching specific music skills to pupils was reported to have been assigned by four teachers, in contrast to the report of only two aides.

  b. Instructional Support

     - Despite the fact that only four teachers reported assigning the task of assisting with testing, six aides indicated they had performed this service.

     - Supervising the work of puzzles, experiments and activities growing out of group planning--assigned by six teachers, performed by four aides.

c. Clerical Support

- Processing book and supplies was considered as an assignment by only three teachers but performed by six aides.

d. Monitorial Support

- Four teachers felt they had assigned to aides the function of preparing centers for sensory learning experiences, but only one aide indicated that she had ever performed this task.

e. Housekeeping Support

- In connection with arranging and changing learning centers for instruction and checking classrooms for proper heating, lighting, and ventilation, only four teachers responded affirmatively in contrast to six aides.

- Pre-service programs were assessed by both aides and teachers as being helpful. Aides viewed the pre-service programs as being slightly more helpful than did teachers. The meetings on developmental tasks of children three to seven years of age and care and utilization of audio-visual equipment was rated by four aides as being most helpful while the professional ethics and role of the teacher aide was rated as helpful by three teachers.

- Suggestions for pre-service meetings included:

By Teachers	By Aides
A clearer definition of the aide's role (7)	More assistance on understanding child development (4)
More emphasis on child development (3)	Clearer definition of the aide's and the teacher's role (2)
More time to plan with kindergarten teachers (2)	Well defined goals for the kindergarten program (2)
More programs on art and what to expect of five-year-olds (2)	Dr. Helen Robison should repeat discussion of starting kindergarten program (2)

More help with music and rhythms and audio-visual equipment (1)	More individualized help especially in the first days of school (2)

- As with the pre-service program, both teachers and aides evaluated the in-service as helpful, with aides rating them as more helpful than did teachers.

- Aides reported the in-service meetings on woodworking, on evaluation, and on art as most helpful; teachers viewed the woodworking meeting, alone as being most helpful.

- Suggestions for in-service meetings included:

By Aides	By Teachers
More in-service meetings with teachers (5)	Continue in-service in small groups (3)
Additional in-service time in art (3), music (2), and woodworking (1), and the use of equipment and materials in the program (1)	More specific help from consultants in all areas (2)
	Assistance and direction in dealing with different kinds of children. (2)
Evaluation meetings with teachers, to exchange ideas and find solutions (1)	Practicum with kindergarten children (2)

- All of the aides reported their greatest satisfaction coming from their association with the kindergarten children and the opportunity this association gave them to observe the children's growth and development. One aide mentioned her relationship with the teacher and the principal as a source of extreme satisfaction; another reacted favorably to being a part of an experimental instructional program.

- Aides stated the following in regard to their least satisfying experiences:

  "Never having enough time to accomplish all we set out to do" (1)

  "The feeling of limitation in the amount of aid I was able to give the teacher" (1)

  "The lack of control and discipline of children" (1)

"Too much testing" and "children seemed effected by the visitors" (1)

Two aides indicated that there were no unsatisfactory experiences and one aide did not respond to this question.

- In rating the importance of their contributions to the kindergarten program, three aides thought it had been very effective, three thought it had been effective, and one stated it had been very effective in regard to the children and limited in regard to help for the teacher.
- Suggestions or recommendations by aides to remedy problems encountered this year included:
  - More specific guidelines
  - Clearer statement of goals and objectives of the kindergarten program
  - Memos from the program coordinator sent to aides as well as to teachers, so that aides may plan instructional support for substitutes when occasion demands
  - A Negro aide in classroom situation where it would be particularly helpful

CONCLUSIONS:

The following conclusions have been derived from the findings:

A. The educational attainment and previous working experience of the aides indicate that they were well educated with a variety of experiences including being a parent that assisted them for their role in the kindergarten program.

B. Aides were used in the classrooms to perform a variety of duties, including instructional, housekeeping, clerical, monitorial and technological support, and direct instruction, with direct instructional duties both performed less often than any others.

C. Evaluations from both aides and teachers reveal perceptual differences between teachers and aides and actual differences between the individual classrooms in the types of duties assigned by teachers and the duties performed by aides. These facts suggest a need for further examination and a clearer understanding of the role of the aide in the kindergarten program.

D. Ratings from the aides show that both pre- and in-service meetings, particularly those with teachers present, were a valuable experience for the aides. The findings also indicated there is a need to continue a variety of pre- and in-service programs in academic and non-academic areas.

E. Aides viewed their contributions to the kindergarten program, and particularly to the development of the children, as being very effective (more than 85% of the aides).

OBJECTIVE 7: To assist parents in understanding the meaning of the kindergarten program and activities.

Because of the influence of the family unit on school success or failure, the importance of involving parents in kindergarten and primary educational programs cannot be over emphasized. It goes without saying that when parents and teachers work together, they have a better understanding of the child and the child has a better opportunity for developing his potential. Schools should provide specific information to parents about the educational program, its objectives, the expected learning experiences, and children's progress so that parents are not only informed but they also learn how to assist the school and their children.

It should be understood, however, that in evaluating the degree of attainment of this objective, CEEC made no attempt to assess understanding by parents of the kindergarten program. Instead, the evaluation took the alternative form of attempting to obtain from teachers information as to how parents were involved in the kindergarten program. For this purpose, a survey was designed regarding parent-teacher meetings, home visitation, and parent involvement; and suggestions or recommendations for improving home-school relations were obtained from the program's teachers.

Analysis of Data

It should be noted that although no released time was provided during the school day, all teachers held individual conferences for reporting to parents.

Table I revealed that six of the kindergarten teachers rated the parent meetings as being very effective in developing positive home-school relations. None of the respondents felt the parent meetings were ineffective.

TABLE I

RATING OF EFFECTIVENESS OF PARENT MEETINGS FOR DEVELOPING POSITIVE HOME-SCHOOL RELATIONS

Rating of Effectiveness	Teacher responses	
	No.	%
Very effective	6	85.71
Moderately effective	1	14.29
Moderately ineffective	0	0.00
Very ineffective	0	0.00
Do not know	0	0.00
Totals	7	100.00

The types of parent meetings arranged through the seven pilot kindergarten schools are indicated in Table II. Seven types of parent meetings were cited by the teachers and in rank order of frequency they included:

1. orientation meetings (back-to-school)
2. individual conferences for reporting pupil progress to parents
3. PTA meetings
4. pre-school conferences

5. individual and group meetings and conferences to discuss the kindergarten program and its objectives
6. informal social activities conducted at the school to discuss various aspects of the kindergarten program
7. informal telephone conversations with parents to discuss mutual concerns and/or problems.

The teachers indicated the meetings were well attended and rated the meetings as being very good to excellent.

TABLE II

TYPES OF PARENT MEETINGS
SCHOOLS HAVE PROVIDED THIS YEAR

Types of meetings	Teacher responses No.	%
Orientation (back-to-school)	7	100.00
Conferences for reporting to parents	7	100.00
PTA meetings	6	85.71
Pre-school conferences	3	42.86
Parent meetings and conferences—to discuss philosophy, program, and pupils	2	28.57
Informal social activities	2	28.57
Informal telephone conversations	1	14.29

Table III on the following page shows that four of the kindergarten teachers indicated that home visits were either moderately effective or very effective. Two of the respondents did not make home visits and indicated they felt visitations were ineffective. Although limited in number, the visits were generally evaluated by the teachers as being useful.

TABLE III

RATING OF EFFECTIVENESS OF HOME VISITATIONS FOR DEVELOPING POSITIVE HOME-SCHOOL RELATIONS

Rating of Effectiveness	Teacher responses	
	No.	%
Very effective	1	14.29
Moderately effective	3	42.86
Moderately ineffective	0	0.00
Very ineffective	2	28.57
Do not know	0	0.00
No response	1	14.29
Totals	7	100.01

The various types of home visits made by four of the seven kindergarten teachers this year are presented in Table IV on the following page. In rank order of the types of home visits most frequently made, they included:

1. visits to discuss pupil concerns or problems and the kindergarten program (4 teachers)
2. social visits to get acquainted with parents and to discuss the child (3 teachers)
3. visits to children who were ill (2 teachers)

4. visits to secure parental assistance in the classroom (1 teacher)
5. visits to provide assistance and service to both parents and pupils, e.g. referral for medical assistance or to provide clothing (1 teacher).

TABLE IV

TYPES OF HOME VISITS MADE THIS YEAR

Types of Meetings	Teacher responses No.	Teacher responses %
Visits to discuss various pupil problems and program	4	57.14
Social visits to get acquainted	3	42.86
Visit children that are ill	2	28.57
Secure volunteer assistance	1	14.29
Provide assistance and services to parents and pupils	1	14.29

Table V on the following page summarizes the various methods used to inform the parents about the program and provides assessments by the seven teachers of the effectiveness of the methods. Individual and group conferences, special meetings regarding the kindergarten program, invitations to visit the classrooms, and form letters were cited as being used by all the teachers. Other methods included PTA meetings (5 teachers), home visits (4 teachers), and newsletters (1 teacher). The teacher ratings indicated the methods were generally effective.

Ratings on PTA meetings and on home visits, however, suggest the need for re-examination by individual schools of their philosophy concerning PTA meetings and home visits and of the use they make of both in informing parents. The following questions might be raised: (1) Has information for parents about school programs--and, in this case, especially kindergarten--been scheduled for already crowded PTA agendas? (2) Has the value of home visits for informing parents been fully explored?

TABLE V

METHODS UTILIZED IN INFORMING PARENTS
ABOUT THE KINDERGARTEN PROGRAM

Methods Used	Teacher responses		Rating of Methods	Teacher responses	
				No.	%
Form letter	7	100.00	Effective	6	85.71
			Ineffective	1	14.29
Home visits	4	57.14	Effective	3	80.00
			Ineffective	1	20.00
Special meeting	7	100.00	Effective	6	85.71
			Ineffective	1	14.29
Parent invited to classroom	7	100.00	Effective	6	85.71
			Ineffective	1	14.29
PTA meetings	5	71.43	Effective	4	66.67
			Ineffective	1	33.33
Conferences	7	100.00	Effective	6	85.71
			Ineffective	1	14.29
Newsletter	1	14.29	Effective	1	100.00
			Ineffective	0	0.00

Responses to the question of what other methods were used in involving parents in the kindergarten program are presented in Table VI.

Seven teachers indicated they used parent volunteers to assist them in the classroom and requested assistance from parents, having them donate and/or share various educational materials and equipment for the classroom. Four teachers reported asking parents for assistance on field trips.

TABLE VI

DESCRIPTION OF OTHER METHODS USED IN INVOLVING PARENTS IN THE KINDERGARTEN PROGRAM

Methods of Involvement	Teacher responses	
	No.	%
Volunteer assistance in classroom--(room mothers, parties, preparing and typing information, taping music and stories, snack program, etc.)	7	100.00
Parents requested to donate and share various materials and equipment	7	100.00
Parents involved in field trips	4	57.14
Parents provided opportunities to visit and observe in the classroom	2	28.57

Table VII on the following page categorizes the suggestions or recommendations provided by teachers for improving home-school relations.

TABLE VII

SUGGESTIONS OR RECOMMENDATIONS FOR IMPROVING HOME-SCHOOL RELATIONS

Suggestions and Recommendations	Teacher responses No.	Teacher responses %
Continue and increase the use of parent volunteers in the classroom	3	37.50
Continue and increase the practice of observations, visits, and conferences for parents	2	25.00
Continue home visits by teachers and provide school time for these visits	1	12.50
Develop or increase the newsletters to parents	2	25.00
Develop parent involvement with principals, teachers, psychologists, nurses, and nutrition specialists to provide specific assistance on various concerns and problems	1	12.50

Teacher responses included the following:

- I would like to develop a volunteer program that would allow parents to work in the classroom on certain days.
- I need to schedule more frequent newsletters to parents.
- The important thing is to involve parents as soon as possible--volunteering time and materials.
- Make more use of local parent talent as consultants to the classroom, e.g. the dentist, fireman, policeman.
- Use team of teacher, principal, psychologist, nurse, nutrition specialist in working with parents.
- I think all teachers should be required to make home visits on school time.

CONCLUSIONS:

A. The home-school relations program developed by the individual schools was successful in establishing an atmosphere of understanding, acceptance, and respect for the kindergarten program.

B. The number and types of parent meetings used by the teachers were successful.

C. The number and types of home visits were somewhat successful but home visits need to be reassessed.

D. A variety of methods was used to inform parents about the program and teacher evaluations indicated that the overall home-school relations for the kindergarten program were generally successful.

RECOMMENDATIONS:

A. A careful delineation of goals for home-school relations and of roles and responsibilities of kindergarten teachers, principals, and supervisors should be drawn up.

B. Pre- and in-service meetings for school personnel in planning and developing positive home-school relations should be scheduled.

C. A policy for the types and number of parent meetings and home visits conducted during the school year should be established.

D. Released time for teachers to conduct individual conferences for reporting to parents should be provided.

E. Parents should be surveyed next year regarding their perceptions of the effectiveness of home-school relations.

There is a correlation between attendance by children in kindergarten classes and parents' understanding of the instructional program. When parents understand what the program is doing for their children and perceive this as important, they ordinarily are interested in having their children attend school as regularly as possible. There is also a correlation between regular attendance and success in school.

Conversely, when attendance is high, the assumption can generally be made that parents' understanding and successful home-school relations have been attained. The following kindergarten enrollment - attendance data would bear out the "successful" evaluation of the kindergarten's home-school relations:

- The kindergarten classes showed an attendance of 92.3 per cent in the morning classes and 92.5 per cent in the afternoon classes.
- Only 19 kindergarten children withdrew from the program. Reasons given for withdrawals were:

A.	moving - - - - - - - - - - - -	15
B.	placed in private kindergarten-	2
C.	personal reasons - - - - - - -	2

KINDERGARTEN ENROLLMENT - ATTENDANCE DATA

1967 - 68

	SCH[illegible] 1		SCHOOL 2		SCHOOL 3		SCHOOL 4		SCHOOL 5		SCHOOL 6		SCHOOL 7		TOTALS	
	Classes		Classes		Classes		Classes		Classes		Classes		Classes			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Beginning enrollment																
male	14	14	16	14	12	14	10	13	6	8	15	13	6	7	79	83
female	11	11	9	11	13	11	10	9	11	7	9	10	19	16	82	75
Total	25	25	25	25	25	25	20	22	17	15	24	23	25	23	161	158
Additional enrollment																
male	2	0	0	0	0	0	2	0	3	1	0	0	0	1	7	2
female	0	0	1	0	0	0	1	0	2	0	0	0	0	0	4	0
Total	2	0	1	0	0	0	3	0	5	1	0	0	0	1	11	2
Withdrawals																
male	0	0	2	0	0	0	1	1	0	0	1	0	1	0	5	1
female	0	0	3	0	0	0	0	0	2	1	1	1	1	2	8	5
Total	0	0	5	0	0	0	1	1	2	1	2	1	2	2	13	6
Ending enrollment																
male	16	14	14	14	12	14	11	12	9	11	14	13	5	8	81	86
female	10	10	7	11	13	11	11	9	11	8	8	9	17	14	77	72
Total	26	24	21	25	25	25	22	21	20	19	22	22	22	22	158	158
Percent of attendance for male and female	95%	94%	94%	92%	93%	93%	93%	93%	92%	90%	93%	95%	87%	90%	92%	92%

OBJECTIVE 8: To serve as demonstration centers for prospective teachers, aides, and other interested persons.

In January 1968, the pilot classes were opened for visitors in each of the seven schools (Centreville, Edsall Park, Hollin Meadows, Lewinsville, Springfield Estates, Walnut Hill, and Westmore). An analysis of the data collected reveals that the classes served this purpose very well. For the time period beginning in January and extending through the beginning of May, 840 visitors observed in the seven schools. If parent volunteers are added to this total, (parent volunteers were involved in a variety of activities in each of the 14 individual classes) the pilot kindergarten classes will have had approximately 1,000 visitors for the 1967-68 school year. The following table presents specific data for the individual schools:

NUMBERS OF VISITORS TO
PILOT KINDERGARTEN CLASSES

Schools	No. of Visitors
School 1	112
School 2	133
School 3	84
School 4	70
School 5	129
School 6	129
School 7	183
Total	840*

* These figures do not include parent volunteers.

A limited sample of visitors who observed in the kindergarten demonstration classes includes:

Dr. Helen Robison,	Teachers College, Columbia University, N. Y.
Mrs. Margaret McIntyre,	George Washington University, Washington, D. C.
Dr. Jean Symmes,	Children's Hospital, Washington, D. C.
Mrs. Jeanne Quill,	University of Maryland, Head Start Regional Lab
Mrs. Louise Berman,	University of Maryland, Head Start Regional Lab
Mrs. Jeanette Nygard,	Director of Elementary Education, Arlington County Schools, Va.
Mrs. Patty Hales,	Elementary Supervisor, Arlington County Schools, Va.
Miss Patty Withrow,	Norfolk City School, Va.
Mr. Bernardo Santos,	Superintendent, Northern Luzon Teachers' College, Phillipines
Mrs. Lenore Plissner,	Fairfax County School Board
Mrs. Mary Anne Lecos,	Fairfax County School Board
Mr. William R. Perlik,	Fairfax County School Board
Mr. John Pearson,	Fairfax County School Board
Mr. Samuel J. Coffey,	Associate Superintendent, Fairfax County Schools, Va.
Mr. Barry Morris,	Assistant Superintendent for Finance, Fairfax County Schools, Va.
Mr. W. Harold Ford,	Assistant Superintendent for Instruction, Fairfax County Schools, Va.
Dr. George G. Tankard,	Assistant Superintendent for Research and Program Development, Fairfax County Schools, Va.
Miss Virginia Benson,	Director of Elementary Education, Fairfax County Schools, Va.
Mr. W. T. Bigger,	Director of Supply, Fairfax County Schools, Va.
Mr. William M. Martin,	Assistant Director of Supply, Fairfax County Schools, Va.
Mr. John Hurley,	Chief Psychologist, Fairfax County Schools, Va.
Mrs. Margaret Faulk,	Assistant Supervisor for Special Education, Fairfax County Schools, Va.
Mrs. Louise Murphy,	Personnel Director-Elementary Education, Fairfax County Schools, Va.
Mrs. Lucille Lyons,	Coordinator of Head Start, Fairfax County Schools, Va.
Mr. Donald Jones,	Director of Health and Physical Education, Fairfax County Schools, Va.
Mrs. Rachel Sugarman,	Northern Virginia Private School Association

Mrs. Clarence Vickery,	Northern Virginia Private School Association
Mrs. Kathleen Miller,	Virginia Montessori School, Fairfax, Va.
Mrs. Clara Dennis,	Jack and Jill Kindergarten, Fairfax, Va.
Mrs. Marie Canning,	League of Women Voters
Mrs. Judy Smith,	League of Women Voters
Mrs. Margaret Doane,	Lutheran Emmanual Day School
Mrs. Steve Shott,	Station WMAL

This selected list does not include the numerous Fairfax County principals, supervisors, prospective teachers, Head Start teachers and volunteers, and interested parents who observed in the classes.

Illustrative comments given by the visitors to the kindergarten classrooms included:

> "The visit proved to be both interesting and informative, and the children were most gracious and quite at ease with visitors in the room. Both the teacher and aide worked well together and were most helpful in answering my numerous questions. I was impressed with the marvelous equipment and happy atmosphere in the room"
>
> "All three of us were pleased and excited about the kinds of things the teacher was doing with her class"
>
> "I just wanted you to know how pleased we were with the program of this particular classroom. The teacher exemplified the progressive type of teacher that is needed. We especially thought she was doing an excellent job in such an important area where youngsters will receive their first taste of school"

3

OBJECTIVE 9: To develop management routines.

Management routines necessary for the implementation of the kindergarten program were developed and incorporated into the program throughout the year. They are only in terms of task completion, i.e., has the transportation of kindergarten children been planned and organized on the central administration level and on the individual school level?

The chapter titled, "Planning and Organizing: A Chronology" outlines various organization and management routines, stating how they were planned and their disposition. Items relating to planning within an individual school and coordination between a school and the central administration are discussed under Survey of the Perceptions of the Kindergarten Program of Principals and Teachers. A chart titled "Kindergarten Planning: A Systems Approach" will be included in the complete report of the kindergarten pilot program. It shows the task-time considerations, and which department was to be responsible for the various tasks. It provides a specific plan for a systematic approach in organizing, planning, and implementing the kindergarten program and suggests specific considerations and tasks that must be completed if the program is to be implemented. This should be useful to school personnel who are responsible for the organization and administration of similar pilot programs.

OBJECTIVE 10: To develop alternate plans for evaluation

Alternate plans is here defined as developing several modes of evaluating the same factors. This was partially fulfilled in certain sections of the evaluation of specific objectives. For example, in assessing the children in the pilot program, both standardized and non-standardized instruments were used. Also the achievement of the children was determined by standardized test results as well as by teacher evaluations. This objective is long term and the evaluation design of the pilot program will serve as base line data for future kindergarten evaluations.

It is anticipated that various new forms of evaluation will be designed in the future which will yield further information on specific factors presently being studied as well as new factors that need to be studied in the future, i.e. teacher-child interaction in the classroom.

OBJECTIVE 11: To study alternate patterns of class size.

This objective was abandoned in August, 1967, (see page 3).

PERCEPTIONS OF KINDERGARTEN PERSONNEL

Certain research studies have shown a strong relationship between school administrative procedures and the quality of classroom instruction. Other studies have revealed a need to obtain data describing perceptions by participants--teachers and administrators--toward the goals, effectiveness, and program implementation of pilot education projects. In light of these previous studies, the CEEC staff deemed it important to examine the effectiveness of administrative and supervisory activities in the demonstration kindergarten classes as well as to identify factors which constituted strengths or weaknesses in program design and implementation.

Three instruments were designed to obtain relevant information: (1) A Survey of the Perceptions of Kindergarten Teachers; (2) A Survey of the Perceptions of Kindergarten Principals; and (3) An Inventory of Factors Affecting the Kindergarten Program.

The surveys attempted not only to assess reactions by teachers and principals toward the objectives of the kindergarten program and the effectiveness of various areas of administration and supervision, but also to get their recommendations and suggestions for modification or deletion of specific areas of the program.

PERCEPTIONS OF TEACHERS AND PRINCIPALS CONCERNING THE KINDERGARTEN PROGRAM

Analysis of Data

- The largest number of teacher and principal respondents (60 per cent) evaluated the kindergarten program as very good, with very little improvement needed. Principals perceived the program more favorably than did teachers; two indicated the program was excellent and needed no improvement and four indicated that the program was very good with very little improvement needed. Only five of the teachers rated the program as very good with very little improvement needed and none of them assessed it as excellent.

- The teachers and principals listed the major objectives of the kindergarten program as shown:

Teachers	Principals
Preparing the child for the first grade by providing a successful introduction to school life and routines (7 teachers)	Developing social skills and learnings (7 principals)
Meeting individual needs and developing the whole child (6 teachers)	Promoting readiness in a variety of areas for introduction to school life (3 principals)
Fostering a good self-image and self-confidence (5 teachers)	Assisting children to meet and solve their own problems (3 principals)
Providing an enriched environment, with many and varied materials, for the children (5 teachers)	Developing the learning potential of five-year-old children and the acquisition of worthwhile information (3 principals)
Promoting readiness in all areas of learning and fostering the acquisition of academic skills (3 teachers)	
Developing social skills, sharing, getting along with others, etc. (2 teachers)	

- More than 85 per cent of the principals and 75 per cent of the teachers stated that they thought the objectives of the kindergarten program were met.

- Most principals (more than 85 per cent) stated that they felt the teachers understood the objectives of the program, while the majority of teachers (more than 62 per cent) felt the principals understood the program objectives.
- Seven of the eight teachers finally involved in the program judged their aide's attitudes toward the program as being very positive to positive. All seven principals of the schools involved judged both the respective teacher's and aide's attitudes toward the program as being very positive to positive. One teacher indicated that her aide's attitude was neutral, explaining that the aide "felt the program should take a different approach--more emphasis on academics with workbooks but (that she) has recently yielded on this point after observing the children's achievement."

In assessing the kindergarten program, the principals and teachers gave the following ratings:

	Principals	Teachers
Instruction	Very effective (6)	Effective (5)
Administration	Effective (4)	Effective (4)
Supervision	Very effective (3)	Effective (6)
Inservice	Very effective (4)	Effective (4)
Home-school relations	Very effective (4)	Effective (6)

Some ineffective and very ineffective ratings were received for Administration, Supervision, and Inservice.

More than 57 per cent of the principals reported that they had contact and/or conferences with the respective kindergarten teacher on a daily basis and an equal per cent of the teachers confirmed this finding. Neither teachers nor principals offered any recommendations regarding intra-staff communication.

Although most principals and teachers indicated that they usually found it necessary to communicate with the CEEC Planning Supervisor on a monthly basis, two of the principals required weekly communication. Both teachers and principals reported a variety of methods used to communicate with the supervisor, (i.e., personal contact, by telephone, and by memorandum). Various recommendations regarding communication between the Planning Supervisor and teachers and principals included:

Teachers	Principals
Continuous monthly inservice meetings	Prompt replies to telephone calls
More prompt communications to the school	Advance notice of meetings
Increased assistance and guidance in the early months of the program	More visitations to the schools

- Six of the teachers felt their role in the kindergarten program had been very well defined and indicated that the aides' role was generally very well to moderately defined. One of the teachers stated the aides' role was poorly defined. Principals generally judged their role to be very well to moderately well defined, although one principal stated it was poorly defined.

- As a result of the kindergarten program, principals reported that responsibilities for scheduling (6), supervising the teacher (5), additional meetings and conferences (5), materials, supplies, equipment and space (6-7), coordination of the program with the regular school program (4), bus transportation (2), public relations (1), and medical screening (1) had been assumed by them in addition to other full-time responsibilities.

- Both principals' and teachers' ratings of the impact of the program on the development of children in the following academic and non-academic areas showed:

  A. Eight of the 11 academic and non-academic areas, i.e., language arts, social studies, mathematics, science, art, free and dramatic play, emotional stability, and social adjustment, were judged to be very helpful in the development of pupils.

  B. Three areas, music, muscular coordination, and general health, appeared to be moderately helpful.

  C. Specifically, the kindergarten principals rated as very helpful the development of pupils in the areas of social adjustment (7), language arts (6), mathematics (6), and science (6). Five of the principals indicated that the areas of art, free dramatic play, and emotional stability were very helfpul.

D. The kindergarten teachers indicated that the following areas were very helpful for pupil development: science (8), language arts (7), mathematics (7), art (7), and muscular coordination (7). Six teachers also revealed that the areas of free and dramatic play and social adjustment were very helpful in developing pupil skills and attitudes.

E. These findings suggest greater reaction to academic areas than to non-academic areas. This might be explained by the fact that the skills in academic areas are more observable.

- While most kindergarten teachers (75 per cent) stated they understood how to use the instructional materials provided for the program, two of the teachers indicated they knew how to use only some of the materials. All of the principals responded that the teachers knew how to use all of the materials.

- A sample of teacher and principal recommendations regarding instructional materials shows the following:

Teachers	Principals
Materials and equipment in the classrooms before September	Sturdier kitchen equipment
More resource books for teachers and more instructional materials with specific directions for language arts and math	More functional storage facilities
	Improved instructional usage
	Metal play furniture be eliminated

Teachers	Principals
Inservice in the area of instructional materials	Furniture delivered before program begins
Materials and equipment graded for difficulty to meet developmental requirements	Adequate materials and equipment for program
Continued and refined evaluation of materials and equipment	

- More than 57 per cent of the principals evaluated the home-school relations aspect of the kindergarten program as very effective; 75 per cent of the teachers assessed this portion of the program as effective. None of the principals or teachers thought that the home-school relations was ineffective or very ineffective.

- The following barriers to the success of home-school relations were cited by teachers and principals.

Teachers	Principals
Public relations—misunderstanding in community as to need, objectives, and methods of kindergarten program (5)	Insufficient supplies and equipment at beginning of year (2)
Lack of daily contact with other teachers and pupils resulting in the elimination of valuable co-operative teaching and sharing (2)	Too many visitors in classes (1)
Lack of understanding of how the five- and six-year old works and plays (particularly plays)(2)	Not enough contact with parents (1)
Lack of practical information for beginning a kindergarten program (1)	Wide range of differences in children (1)
	Lack of specific direction (1)
	Lack of advance notice for kindergarten program (1)

Teachers	Principals
Poor relationship between kindergarten teacher and aide (1)	
Inadequate communication (1)	

- Two respondents reported observing no barriers.

- Various recommendations to overcome barriers were offered by principals and teachers. They included:

Teachers	Principals
More PTA meetings	Better preparation and improved planning for kindergarten programs
Additional meeting with parents to discuss kindergarten program	More specific direction through more intensified visits of supervisor
Two teachers per school for kindergarten program	Greater understanding between teacher, aide, and parent volunteers regarding the program
Strong orientation program for kindergarten teachers	Released time for teachers to hold parent conferences twice a year and inservice training for more effective reporting to parents
More information that is practical and applicable to the classroom	Specific guidelines for program direction
More supervisory assistance to support teachers	
Additional assistance in defining role of teacher aide	

- Both teachers and principals cited the following factors as facilitating the progress of the kindergarten program:

Teachers	Principals
Inservice programs on monthly basis--small groups for inservice and exchange of ideas	Attitude and ability of kindergarten teachers, aides, CEEC Planning Supervisor, and volunteers

Teachers	Principals
Cooperative and pleasant attitude of CEEC Planning Supervisor, CEEC staff, and consultants	Interested and supportive parents
Up-to-date materials and equipment	Materials and supplies
The teacher aide	Preplanning and inservice education of teachers by CEEC Planning Supervisor and consultants
The principal	
Provisions for observations	
Public relations for program and supportive parents	

TEACHERS' PERCEPTIONS OF FACTORS AFFECTING THE KINDERGARTEN PROGRAM

Analysis of Data

- Analysis of the data indicates that the majority of the administration, instruction, inservice, and staff-relations factors listed in an inventory were evaluated by the kindergarten teachers as crucial or relatively important factors to the progress of the kindergarten program. The information suggests that teachers perceived the instructional and administration factors as being more crucial for the progress of the program than were staff-relations and inservice factors. Factors relating to inservice were seen as the least important of the four major factors, being regarded as only relatively important rather than as crucial.

- Specifically, more than 62 per cent of the teachers (5 or more teachers) rated the following factors as being crucial factors in the progress of the program:

1. Administrative factors
    a. availability of materials, supplies, and equipment
    b. the quantity of materials, supplies, and equipment provided for the art, blockbuilding, manipulative, reading/library, sand-water table, and workbench learning centers
    c. quality of organization and coordination of the program provided by CEEC and the principal of the local school
    d. flexibility of the kindergarten program

e. amount of time and adequacy provided for the snack break, playground period, and free play during the school day

Four teachers (50%) also indicated that the following were crucial factors:

f. availability of classroom furniture

g. adequacy of classroom space for art, housekeeping, reading/library, and sand-water learning centers

h. guidelines for classroom management and operation

i. degree of cooperation and coordination of kindergarten teachers with the school staff

2. Instructional factors

a. instructional materials provided for the pupils

b. opportunities to individualize the instructional program in language arts and art

c. informal class atmosphere with small groups of children

d. teacher responsibility in deciding on amount of time and depth of study in language arts, science, and art

e. novelty and variety of new materials and supplies

f. emphasis on more pupil-teacher interaction (all the teachers cited this point)

g. opportunities for teachers to explore new ideas and techniques

h. suitability of instructional level and materials for children in language arts, science, art, and music

Four teachers (50%) also stated that the following were crucial factors:

i. grouping of children for instructional activities

j. opportunities to individualize the instructional program in mathematics and science

k. teacher responsibility in deciding on the amount of time and depth of study in social studies, mathematics, and music

3. Inservice factors

a. quality of the inservice meetings and contributions of various consultants and the CEEC staff (Dr. Helen Robison, Teachers College, Columbia University was rated excellent by all eight teachers)

b. amount of time devoted to inservice programs

c. emotional support provided to teachers by the inservice meetings

d. motivation derived from the inservice meetings by the teachers

Four teachers revealed (50%) that the following were also crucial factors:

e. general overall quality of the inservice meetings

f. pertinence of the inservice meetings concerned with the responsibilities of the teacher and aide in supervising children's activities

g. adequacy of support provided by CEEC Planning Supervisor

4. Staff relation factors

a. overall degree of cooperation provided by other pilot kindergarten teachers and the CEEC staff

b. degree of cooperation and assistance provided by the local school principal and/or assistant principal

c. degree of understanding and acceptance by parents and the communities served by the pilot program

d. amount of communication between the kindergarten teacher and the local school principal

e. role definition of the kindergarten teacher

Four teachers (50 per cent) revealed that the following were also crucial factors:

f. overall degree of cooperation from teacher aides

g. degree of understanding and acceptance by school staff

h. adequacy of home visits by teachers

- Fifty per cent or more of the kindergarten teachers (4 to 8 teachers) evaluated the following factors as being relatively important factors in the progress of the kindergarten program:

1. Administrative factors

   a. availability of classroom furniture for program

   b. adequacy of classroom space for blockbuilding, listening, and manipulative learning centers

   c. quantity of materials, supplies, and equipment for the housekeeping learning center

   d. amount of time and adequacy of scheduled in-service meetings

   e. guidelines for the instructional program

   f. supervision provided by the CEEC Planning Supervisor

2. Instructional factors

   a. opportunity to individualize the social studies program

   b. degree of familiarity of teachers with new instructional materials

   c. meetings of principals and CEEC Planning Supervisor to plan the kindergarten program

   - d. presence of systematic project evaluation
   - e. suitability of instructional level and materials for social studies

3. Inservice factors
   - a. quality of specific consultants and their specific contributions to the inservice meetings
   - b. general quality of the contributions of all consultants at inservice meetings
   - c. amount of inservice time devoted to instructional, administrative, and supervisory concerns
   - d. adequacy of inservice meetings in the area of language arts, science, and supervision of children
   - e. adequacy of inservice meetings for principals
   - f. motivation derived from the inservice meetings by teacher aides

4. Staff relations factors
   - a. adequacy of orientation meetings for parents and the school staff which defined role of the kindergarten program
   - b. adequacy of additional meetings and conferences to further define the program and provide evaluation of pupil progress
   - c. amount of communication between first-grade teachers and kindergarten teachers
   - d. amount of communication between kindergarten teachers and the CEEC staff
   - e. adequacy of role definition for teacher and aide

- Various administrative, instructional and inservice factors were cited by the teachers as being neutral, neither facilitating nor deterring the progress of the program. A sample of these included:

- a. adequacy of overall classroom space for classroom (4 teachers)
- b. opportunity to individualize the music program (4 teachers)
- c. amount of time to prepare instructional materials (4 teachers)
- d. extent of disturbance of instruction during classtime (5 and 6 teachers, respectively)
- e. amount of inservice time devoted to home-school concerns (3 teachers)
- f. adequacy of inservice for social studies, mathematics, art, and music (4 teachers)
- g. adequacy of amount of time provided for visitation and observation in other kindergarten classes (3 teachers)

- Teachers rated the following factors as being relatively important in blocking the progress of the kindergarten program:
  - a. adequacy of the classroom space for the workbench learning center (2 teachers)
  - b. readiness of teacher aides in September for the program (2 teachers)
  - c. pupil-teacher ratio, including teacher aides (3 teachers)
  - d. number of meetings with teacher aides to plan the kindergarten program (5 teachers)
  - e. adequacy of inservice training program in the areas of art and music (2 teachers)

- Teacher evaluations revealed that the following factors were assessed as being crucial in blocking the progress of the program:

a. adequacy of classroom space for the blockbuilding, sand-water table, and workbench learning centers (1 teacher for each center)

b. quantity of materials, equipment, and supplies for the reading/library learning center (1 teacher)

c. supervision provided by the Planning Supervisor (1 teacher)

d. initial selection procedure for pupils (1 teacher)

e. availability of school time for planning and preparing instruction (2 teachers)

f. pertinence of instructional topics covered during the inservice meetings (1 teacher)

g. adequacy of inservice training program in the areas of language arts, social studies, mathematics, art, operation and management, and supervision (1 teacher for each area mentioned)

h. adequacy of amount of time for visitation and observation of other kindergarten classes (1 teacher)

CONCLUSIONS REGARDING PERCEPTIONS OF KINDERGARTEN PERSONNEL

The total number of teachers and principals responding to the two surveys, "Perceptions of Teachers and Principals Involved in the Kindergarten Program" (Part A of the section) and "Factors Affecting the Kindergarten Program" (Part B), was relatively small and conclusions that would be applicable to the kindergarten program on a countywide basis cannot be drawn from this year's study. Further, of course, the function of the Center for Effecting Educational Change was to implement a pilot kindergarten program and to submit specific curricular and organizational information to the Department of Instruction, Fairfax County Schools, which--in implementing a countywide program--will have the responsibility for accepting, modifying, or rejecting the philosophy and procedures developed in the pilot program and the recommendations growing out of CEEC's research findings.

With the foregoing facts in mind, however, certain general conclusions can be made. Among them are:

A. In attempting to assess how well objectives listed at the beginning of this section (page 133) were met, the CEEC staff designed a Curriculum Development Team approach (see page 7) and evaluative instruments which would reveal the structure of a kindergarten program. Research findings indicate that these procedures were effective. This conclusion derives from the fact that CEEC was able to supply the Department of Instruction with the following:

    1. data regarding learning activities and specific curriculum, operation, and management materials as aids in

developing the Kindergarten Curriculum Guide for the 1968-69 school year;

2. various survey and rating scales which provide specific information on organization of the program, revealing broad outlines of learnings and of learning activities in various areas, as well as delineating the factors, procedures, and materials suitable for the kindergarten program.

B. The detailed information resulting from the scope and diversity of specific questions included in the evaluation instruments should be carefully examined if maximum value is to be derived from the study.

C. The survey by principals and teachers (Part A) represents a broader assessment of the kindergarten program than the Factor Inventory (Part B), which provides an in-depth analysis of administration, instruction, in-service, and staff relation factors as perceived by the teachers. While the survey might raise questions similar to the factor inventory, it does not pinpoint specific information. For example, the factor inventory shows that to assess the program's effectiveness in developing a broad outline of specific learnings one must consider such evidence as (1) administration--adequacy of classroom space for specific learning centers, (2) instruction--suitability of instructional level and materials for children,

(3) inservice--adequacy of inservice training for specific areas, and (4) staff relations--degree of understanding and acceptance of the kindergarten program by, among others, the school staff.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

Research performed by the Center for Effecting Educational Change (CEEC) is based on the philosophy of a systematic change procedure. A systematic change procedure calls for continuing evaluation, adaptation, and implementation. This being so, it follows that CEEC does not suggest that the kindergarten demonstration program produced definitive answers concerning all five-year-olds in all school situations in Fairfax County. As delineated in this report, however, the program did produce research which clearly points to areas which should be reviewed and analyzed before implementation of the county-wide kindergarten program. It also illustrated a number of factors which need further study.

General conclusions and recommendations derived from the findings of this study are:

1. The kindergarten program does not produce similar effects for all children. It is essential that the kindergarten program be flexible in order to meet the varying cognitive, social, emotional, and physical needs of the children.

2. Because instruments for proficient evaluation of the achievement of kindergarten children are so few, further identification and development of such evaluative instruments should be given priority in any assessment of the kindergarten program.

3. A research project with a larger number of children, teachers, principals, and aides should be undertaken to substantiate the effectiveness or ineffectiveness of the pilot program.

4. The findings herein reported should serve as baseline data for both continued program development and further research. To this end a committee of elementary school personnel should be formed to examine these data and to formulate guidelines for future kindergarten programs as well as effective articulation by the primary school program. The examination would be profitably directed toward:

   - instructional materials
   - role of the aide
   - factors affecting the kindergarten program, i.e., administration, instruction, inservice, and staff relations
   - administrative and supervisory roles and the relationship of these roles to the effectiveness of the instructional program
   - characteristics and background of kindergarten children as shown by information on standardized test data.

   The above areas could be analyzed by individual schools to pinpoint unique needs and for further refinement and development of the program.

5. The barriers identified by the CEEC Planning Supervisor,

principals, teachers, and aides should be carefully examined in order to eliminate as many as possible.

6. Demonstration centers should be identified and organized for prospective teachers, aides, and other interested persons and demonstration teachers should assist with inservice activities on a practical level. In addition, kindergarten teachers should have the opportunity and time to observe exemplary classrooms.

7. Appropriate guidelines for responsibilities, functions, and authority should be established for all personnel or departments involved in programs serving as pilots for later system-wide implementation.

8. Study of the function of teacher aides should be continued and refined.

9. The inservice program of both kindergarten teachers and aides should be studied, expanded, and evaluated.

10. Further study of the social, emotional, physical, and intellectual development of the five-year-old in Fairfax County should be initiated.

11. The identification of appropriate learnings and activities, developed on a limited basis this year, should be continued and expanded.

12. Teaching and evaluation strategies should be examined to determine effective ways to individualize the kindergarten program. Such an examination would include:

    - new ways of organizing for teaching
    - new ways of assessing both children and the program, through, for example:
        - video tape of classroom interaction between teacher and children
        - interdisciplinary team approach (teacher, principal, supervisor, psychologist)

13. Specific content areas in the kindergarten curriculum should be studied in depth with emphasis upon the development of materials for math, social studies, language arts, and music.

14. Guidelines should be formulated concerning home-school relations, along with a clarification of the role of all personnel.

15. A follow-up study of the 1967-68 kindergarten children should be made during the 1968-69 school year. The purpose of this study would be to compare their achievement and adjustment with the achievement and adjustment of children who have had no kindergarten experience. It is recommended that the Department of Instruction and the Research Department of the Fairfax County schools initiate this study.

APPENDIX A

PRINCIPALS, TEACHERS, AND AIDES INVOLVED IN THE DEMONSTRATION KINDERGARTEN CLASSES

DEMONSTRATION KINDERGARTEN CLASSES

1967 - 1968

School	Principal	Teacher	Aide
Centreville	Mr. Herman Keith, Jr.	Mrs. Judy Saxey and Mrs. Marie Scott	Mrs. Marie Scott and Mrs. Mary Lawing
Edsall Park	Miss Thelma Grogan	Miss Sue Dicken	Mrs. Daphne Allen
Hollin Meadows	Miss Nancy Calvert	Mrs. Marie Bailey	Miss Julia Forbes
Lewinsville	Mr. Charles Koryda	Mrs. Helen Beals	Mrs. Lois Wood
Springfield Est.	Mr. Charles Goff	Mrs. Pat Masri	Mrs. Barbara Hess
Walnut Hill	Mr. Darrell Huffman	Miss Joyce Moore	Mrs. Molly Todd
Westmore	Miss Sarina Genovese	Mrs. Betsy Manning	Mrs. Margaret Griggs